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LEOPOLD DE ROTHSCHILD, C.V.O., M.A., D.L., J.P.

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THIS VOLUME OF "THE GARDEN"

Is dedicated to

LEOPOLD DE ROTHSCHILD,

C.V.O., M.A., D.L., J.P.

WE have much pleasure in dedicating this, the Seventy-seventh Volume of THE GARDEN, to Mr. Leopold de Rothschild, who has given considerable time, thought and encouragement to the advancement of horticulture. He was born on November 22, 1845, and is the third son of Baron Lionel de Rothschild of Gunnersbury Park, Acton, W., and brother of Lord Rothschild and Mr. Alfred de Rothschild. Mr. Leopold de Rothschild is an enthusiastic lover of gardening in all its branches, and has not only almost a passion for landscape gardening, but a practical knowledge of all its details, being ably supported in his love of horticulture by Mrs. Leopold de Rothschild. He was almost, if not actually, the pioneer of Carnation cultivation in pots—notably of the Malmaison type—taking a keen interest in these beautiful flowers before the now popular winter-flowering race was in vogue. His most picturesque, delightful, and one might say romantic, gardens at Ascott, Leighton Buzzard, are his own design. The house itself, when taken possession of nearly forty years ago, was an old farmhouse of the better type; now it is a most extensive residence, but the original style of architecture has been carefully preserved. The house on all sides is well clothed with climbers. The gardens are extensive, and both spring and summer bedding are well carried out. This season a rock garden has been formed. Winter-flowering plants under glass are one of the special features at Ascott, and Carnations, Begonias, Plumbagos, Geraniums and forced Roses are particularly well grown. His gardens at Gunnersbury are also well known, and fruit culture is carried out on an extensive scale, both under glass and in the open. Here the pleasure grounds are very charming, particularly in the summer-time, when they are extensively used for garden-parties and other social functions. Mr. Leopold de Rothschild is a keen lover of country life, and few things afford him greater pleasure than visiting well-known gardens. He is a Vice-president of the Royal Horticultural Society and of other bodies that have for their object the encouragement of horticulture. He was chosen last year as the President of the Jury at the Royal International Horticultural Exhibition. Recently the Veitch Memorial gold medal was awarded to him for his distinguished services in the furtherance of horticulture. This year he presided for the second time at the Festival Dinner of the Gardeners' Royal Benevolent Institution. Gardeners have no greater friend than Mr. Leopold de Rothschild. He is at once in full sympathy with their difficulties and their disappointments.

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Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Treatment of Yew Hedges.—We would remind readers that the present is a good time to attend to Yew hedges, which are not so satisfactory as they should be. A top-dressing of well-rotted manure some 3 inches thick and a foot or 18 inches in width, placed along either side of the hedge and nearly up to the stems of the Yews, will prove highly beneficial during the coming growing season.

Chrysanthemum Godfrey's Perfection.—This recent introduction only requires to be known, and it promises to make an ideal pot plant for the amateur. It belongs to the Anemone-flowered section, and, when fully developed, the flower-heads are quite white. It is a sturdy-habited plant of about three feet high, bushy and free flowering withal.

Succulents in the Edinburgh Royal Botanic Gardens.—The succulent plants in the Royal Botanic Gardens, Edinburgh, are always worth a visit from all interested in these attractive plants. The collection is a very large and well-selected one, including many choice Cereuses, Opuntias, Echinocacti, Euphorbias, Haworthias, Stapelias, Huernias, Mesembryanthemums, Aloes and, in fact, all classes in cultivation. The collection is not only very large and well selected, but it is admirably cultivated.

Saxifraga apiculata.—The persistency with which this sturdy yellow-flowered alpine endeavours to flower right through the winter is one of its most remarkable attributes. Frost and storm may appear to repel and mar it every now and again, but it still returns to the charge, and later, in more senses than one, is as a "giant refreshed"; that is to say, its later flowering is its better flowering so far as the open air is concerned. Meanwhile, we may have it and enjoy it in the alpine-house, where it is free to expand its pretty primrose yellow blossoms.

The Laurustinus.—This old favourite shrub is flowering more profusely at the present time than we have ever seen it before. Nearly every outside branch bears a cluster of flowers, opening and in bud. We have seen several division hedges in gardens entirely composed of the Laurustinus, and, owing to good treatment, both the sides and the tops are well covered with flowers. In tubs placed on paths and in other parts of the garden, this shrub is equally well flowered, and in every instance the foliage is luxuriant. Any ordinary garden soil suits this shrub.

Christmas Roses and Hardy Ferns.—In the vicinity of the Cumberland Gate at Kew a wide border is very attractive at the present time by reason of a natural arrangement of Christmas Roses and hardy Ferns, with here and there the marbled foliage of healthy clumps of hardy Cyclamen. The mild weather has resulted in the fronds of the Ferns remaining greener than is usual for the time of year, hence the white flowers of the Hellebores are prettily contrasted. But even where the fronds are brown, the effect is very pretty, and such grouping might well be copied by people who have a border to plant which is made up of fairly moist soil and is in partial shade, for Christmas Roses like a moist root-run and a certain amount of shade.

The Spurge Laurel (Daphne Laureola).—If this plant were a new introduction, it would be heralded with a flourish of trumpets as an interesting shrub that flowers in the dead of winter. As it is a native of our woods, little heed is taken of its many virtues, and its fragrant, although not showy, flowers come and go unseen save by the few who look for the joys of the country-side at this season of the year. On the chalk hills in Berkshire we recently came across little copses of Hornbeam and conifers, in which the Spurge Laurel was flowering freely. It is an excellent shrub for coverts, and is one of the few evergreens that will flourish under the dense shade of trees.

To Our Readers.—With this issue a new volume and a new year commence. It is pleasant to look back upon the year which has just closed, and to recall the kindly feeling that has existed between Editor and readers. To those who have sent us letters of appreciation and notes of interest, and also to those who have so ably assisted us in making THE GARDEN better known, we tender our thanks. Numerous readers have sought advice in difficulties which have beset them in their gardens, and it has been a pleasure to give such advice. We hope in the year that is just starting many more will write to us about their gardens and their difficulties. To all our readers we wish greater success in their gardens than they have ever experienced before. Following our usual custom, we are presenting an almanack with this issue. This gives the dates of the leading horticultural shows to be held during 1913, and we hope it will be hung up as a guide to these events.

A Bright Greenhouse Plant.—Hæmanthus multiflorus is a beautiful bulbous plant and one of the most pleasing occupants of the warm greenhouse when in bloom; and, fortunately, it is so amenable to various methods of culture that its flowering period can be extended over a considerable time by the device of prolonging or restricting the resting period. In midwinter its bright red flowers are perhaps more pleasing than at any other period, and they are charming when associated with Ferns or other green-foliaged plants. The flowers appear in a large umbel surmounting a stout stalk 12 inches to 18 inches high, and are in advance of the leaves. It is necessary to keep the plant growing in a warm greenhouse or stove until the leaves begin to turn yellow, when water may be gradually withheld until all leaves are dead. Perfect dryness and rest are then necessary for several months, the earlier bulbs being started into growth again in November.

CORRESPONDENCE.

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

The Mild Weather.—As your correspondents are showing, this is indeed quite an abnormal season. Here I had Winter Aconites in bloom on November 30. At the present date the ordinary Snowdrops are in full bud. The Cilician type have, of course, been blooming for weeks, and are nearly over. But what to me is even more extraordinary is that not only is Anemone alpina up in profusion, but already some of the clumps are flowering!—H. KINGSMILL MOORE, *Cedar Mount, Dundrum, County Dublin.*

A Beautiful Native Tree.—During the early days of May there is no more beautiful sight in this country than the hedges and trees of the native Hawthorn, Cratægus Oxyacantha, or May-blossom as the children delight to call it. We often wonder why trees of this are not more freely planted in the less formal parts of the pleasure grounds in place of others which are often quite unsuitable for the positions they fill. That the common Hawthorn can be very effectively grouped, the accompanying illustration will show. This is from a photograph kindly sent us by Mrs. W. Wilson, jun., Horsley Gate, Holmesfield, Sheffield, and represents a scene in the gardens at Beauchief Abbey, near Sheffield. We publish it now while there is time to plant. The tree is not fastidious in its requirements, as we know of examples that are thriving in almost all sand, and others doing equally as well in the heaviest clay.

A BEAUTIFUL SPRING SCENE: HAWTHORN TREES FLOWERING AT BEAUCHIEF ABBEY, NEAR SHEFFIELD. NOW IS THE TIME TO PLANT TREES.

Variegated Arabises in Winter.—Without professing any great admiration for plants with variegated leaves, one may well find them of considerable value for certain positions and at certain times. In winter they are occasionally of considerable value, as the golden or silver variegated leaves are almost as good as a flower for brightening up a garden. A bright variegated Rock Cress is Arabis albida aurea variegata, which has pretty yellow and green leaves. A. albida argentea variegata has a similar variegation, but in this case the colours are white and green. A. alpina flore pleno variegata is a white and green variegated form of the popular double Arabis. A. lucida variegata is not so good on dry soil, but is of green, edged with yellow.—S. A.

Lewisias Cotyledon and Howellii.—Your correspondent's notes on these lovely plants on page 635 of the December 21 issue are misleading. The plants are not natives of California, but of cold, wind-swept Alaska, in the Far North. There they make their home in the deep crevices of the rocks in the rough, gravelly soil. That they have been principally supplied through a Californian collector may be the cause of the error as to their habitat. There is no doubt as to their absolute hardiness and easy culture in any deep, well-drained stony soil in a sunny position. Last winter we planted some, just received from a collector, on a new moraine in an especially exposed position, and also on a wall, yet these have done quite as well as the rest, which were carefully potted and protected under glass. They are easy and hardy, and are happy-looking subjects at all times; but are, apparently, so slow-growing that the demand will, I fear, have to be supplied from their native country. My earnest hope is that the supply may prove inexhaustible.—J. STORMONTH, *Kirkbride, Carlisle.* [We welcome notes about the cultivation of new plants, as so little is known about the requirements of many of them.—ED.]

A National Daffodil Society.—In 1910 considerable discussion took place in some of the gardening papers as to the desirability of forming a National Daffodil Society, but although the suggestion met with very general approval, nothing was effected. In venturing once more to raise the question, I should like to advance a few reasons why such a society is desirable. 1. The Daffodil holds the undoubted position of queen of the spring flowers. 2. The Royal Horticultural Society's Narcissus committee has neither the time nor the power to advance the interests of the flower as its merits deserve. 3. The Royal Horticultural Society's Classification List, good though it is, requires revision now, and the constant introduction of new varieties calls for its annual revision. 4. It is desirable that special standards be laid down for the flowers in each class. These would be of assistance to the seedling-raiser as well as to the judges of show flowers. 5. Special rules are required for judges at Daffodil shows. 6. The annual report giving *inter alia* lists of good garden varieties and describing the best novelties of the year would be of value. 7. Investigation of insect pests and diseases is required. I hope that it may be found possible to hold a conference on the question during the forthcoming Daffodil season, and that those "in authority" in the Daffodil world will take the matter in hand.—C. E. KITCHIN.

The Flower Garden in Winter.—I would suggest that Coronilla glauca might be added to the list on page 639 of THE GARDEN for December 21. In Surrey it seems hardy, having withstood 25° of frost; but, of course, being winter-blooming, the flowers and young growth will be nipped back by such cold. At the end of December I had it in bloom in the open, having withstood 12° of frost without protection. As a plant on a south wall it would only need protection when in full bloom in severe weather. The season of flowering lasts long into the spring. Also Iris stylosa should not be forgotten as a cut flower from the open in mild weather from November until April. Many notes have appeared in THE GARDEN about this lovely and easily-grown Iris. Although I have grown it for years, I can never make up my mind whether clumps which do not bloom well one winter should be divided up and replanted in spring, or whether, if left alone, they will bloom well another winter after missing a season. Perhaps a real authority like Mr. Dykes can decide this point.—C. G. B.

—— Reading an article on this subject, pages 639 and 640, issue December 21, called to mind the following winter-flowering plants: Lonicera Standishii and L. fragrantissima (for a wall), Daphne Mezereum (with its exquisitely-scented blossoms), Cratægus monogyna præcox (Glastonbury Thorn), Tree and Bush Ivies, and Viburnum Tinus (Laurustinus), whose pinkish white flowers and dark green foliage are invaluable for cutting. Then there are many evergreen shrubs with fine berries, such as Skimmia japonica, Escallonia macrantha, Hollies, of course, Ruscus aculeatus (Butcher's Broom), which thrives under the shade and drip of trees. Plants with handsome foliage and stems also help to make a garden interesting during the winter months, and of these I would mention Yucca gloriosa (Adam's Needle), Magnolia grandiflora (with its shining, russet-backed leaves), Laurus nobilis (Sweet Bay), Megasea cordifolia, Brooms, and last, but not least, the hoary grey foliage of Lavender and Rosemary and the silvery grey hue of a Carnation bed.—E. G. SHELLEY, *Alresford, Hants.*

Winter Aconites Flowering Early.—I think your readers will be interested to hear that ever since the second week in December the woodland glades of the Fellows' Garden of St. John's College, Cambridge, have been carpeted with a sheet of Winter Aconites, hundreds and thousands in full bloom. I have for years kept a careful record of the dates of opening of our earliest flowers, and I have never known these to appear before the last days of the year, and then only as isolated specimens. —M. KENNY, *Westbye, Cambridge.*

Good Red Currants.—No doubt the varieties recommended in THE GARDEN for December 18 are good in a way, but they are all late sorts, and I never could see that La Constante and Versaillaise were distinct. The fault of these last two is that the branches are very liable to break off from the parent bush, so that it is not easy to get a large bush, such as Raby Castle forms; from this half a bushel has been gathered. My selection would be the varieties Knight's Early for first crop (called Scotch in Kent), New Red Dutch or Chiswick Red for main crop (dark red), and Raby Castle, Scotch-grown Upright, Dutch Spreading and Raby (half-spreading), while for a very late variety Prince of Wales or Rivers' Late is very fine. Fay's Prolific and Versailles are very much alike, and are best on a fence or wall. They are sweeter than the others.—GEORGE BUNYARD.

Ruellia macrantha.—Among the many acanthaceous plants that are of considerable value in a warm greenhouse owing to their winter-flowering qualities, must be included this Ruellia, which came to us from Brazil many years ago. It stands out from all other Acanthads in the size of the individual flowers, these being in vigorous examples nearly four inches long, funnel-shaped, and well approaching three inches across the expanded mouth. They are of a pleasing rosy red shade, veined in the throat with a deeper colour. This Ruellia is most satisfactory when propagated from cuttings of the young growing shoots in early spring and shifted on during the summer when required. In the warm weather the plants will do well in a frame, shutting them up rather early in order to husband the sun-heat, but exposing them more towards tha end of the season—H. P.

Ferns in Glass Bottles.—It is quite usual for Ferns to appear in glass bottles, as mentioned on page 633 of THE GARDEN for December 21 especially when buried to some depth in the soil. I recollect many years ago seeing a short edging in a small garden which had been formed with empty soda-water bottles, which had been discarded and fixed in the soil, sunk to about two-thirds of their length, and in most of these small Ferns had appeared, mostly Lastreas. It cannot be contended that these sprung from spores conveyed on other Ferns, but the spores must have been in the soil. Since that time I have seen and tried the experiment of sinking broken bottled in the ground, bottom up, leaving a few inches above, and in many of these young Ferns have appeared. The experiment, if such it can now be called, is an interesting one, although I have never seen any but common Lastreas and similar Ferns produced.—S. ARNOTT.

FORTHCOMING EVENTS.

January 6.—Royal Horticultural Society's Examination for Employés in Public Parks and Gardens, 10 a.m.

January 7.—Royal Horticultural Society's Exhibition at Vincent Square, 1 p.m. to 5 p.m.

January 8.—East Anglian Horticultural Club Meeting.

GARDENING ACROSTICS.

AS announced in our issue for December 14, 1912, we are publishing a series of eight acrostics based on gardening or simple botany. Prizes of £3, £2 and £1, respectively, will be awarded to those sending in correct solutions of all the acrostics. The names of those who have correctly solved the problems will be published from week to week, and the final list of prize-winners in our issue of February 22. In all cases the Editor's decision must be final. The solution to Acrostic No. 3, which appeared last week, will be published next week, and the solution to No. 4, which is printed below, will be published in our issue dated January 18. For full rules governing the competition readers are referred to page 623 of our issue for December 14, 1912.

DOUBLE ACROSTIC No. 4.

"Hortulanorum Princeps" (properly arranged).

1. A much-abused word.
2. Singers of an "O"
3. The flower Glenny never saw.
4. A "classy" Botanist and Gardener of old.
5. A green circlet.
6. Part of a chaplet—a glorious sight in quantity. "In medicine famous and of sovereign use." Say what I am in Latin.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than January 11. Mark the envelope "Acrostic" on the upper left-hand corner.

SOLUTION AND NOTES OF ACROSTIC No. 2.

"JOSEPH PAXTON."

Sir Joseph Paxton was gardener at Chatsworth; Editor of the "Magazine of Botany," begun in 1834 and continued for sixteen volumes; and architect of the building of the Great Exhibition, for which he was knighted.—"History of Gardening in England," third edition, page 296.

* 1.	J.		P.
† 2.	O	SMUND	A
‡ 3.	S	PADI	X
§ 4.	E	SCHALO	T
‖ 5.	P	OTAT	O
¶ 6.	H	OXTO	N

* John Parkinson.—Johnson's "History of English Gardening," page 82. Parkinson wrote the "Paradisus" and also the "Theatrum Botanicum," 1640—"The most extensive Botannical work then extant." † The Osmunda is "the Royal Fern"; it is dedicated to St. Christopher.—Friend's "Flowers and Flower Lore," page 158. There is only one species of Osmunda in England. ‡ The centre of the so-called Arum Flower is called a spadix. § A. Dean's "Root and Stem Vegetables," page 37. It is often spelt Shallot, *e.g.*, in Weathers' "Garden Guide." ‖ Messrs. Sutton and Sons and others are trying to obtain such a tuber. ¶ T. Fairchild had a vineyard at Hoxton as late as 1722.—Johnson's "History of English Gardening," page 191.

SOLVERS OF ACROSTIC No. 1.

CORRECT solutions of Acrostic No. 1, published in our issue for December 14, 1912, were sent in by the following: "S. W.," "Brixtonian," W. Bond, Frederick Marshall, James Clayton, Miss L. Joshua, R. Chapman, H. A. Churchill, Mrs. C. J. Clerk, "Nedrag," Ernest Walker, "Omega," Mrs. L. Patterson, F. W. Hull, "Tempus Fugit," F. Bloomer, Miss N. Lucas, "Arlesey," Agatha Mayo, Miss G. H. Jeffreys, E. B. Anderson, "Ubique," Thomas D. Taylor, "Tile," "Elm, Wisbech," Dr. C. G. Cooper, H. C. Hislop, "Rushmere," Mrs. Prideaux, S. W. Philpott, "Arnold," Mrs. L. S. Robertson, Mrs. Fitz Hugh, L. Bigg-Wither, Margaret E. Ewbank, B. Newill, "Penwarne," "H. G.," "Witton," "Newton," A. J. Rennie, Frank Mark, "Iris," Walter D. Cartwright, Bruce Barron, Gertrude E. Simmins, E. S. Lyttel, "Bob," "Muggins," M Brown, "Rag," Mrs. Palmes, "D. T.," I. A Londen, H. Carrier, "W. C. E.," "Ping," "Judith," R. W. Dean, Mrs. Florence Jones, "Chum," Miss Hay, H. Tomalin, Miss Pittis, "Anna Olivier," "Ardenmore," Miss G. M. Hallowes, "White Lady," "Roco," W. H. Chapman, "Senlac," James Shearer, "Salgnod," "Briar Bank," "Wattean," "Elm, Brompton," D. Grant, William Holton, "Nemo," "Boronia," "Huxham," "George," "Arethusa," "San-tan," "R. P. B.," "G. B. B.," "Lonsdale," "Ivy," "Leander," William Ackworth, A. C. Carne, "Yeltsa," William Slocombe, Alex. Henderson, Lilla Dance, "Glevam," "A. A. T.," "Cycle-car," "Traveller's Joy," Mrs. H. Jenner, "E. Key," "A. B. C.," James Gilchrist, E. Beeson, W. P. Wood, "Boschetto," "Agrostis," Lionel Coombes, J. Duguid, W. H. Mothersole and "Vic."

*** *The names of those who have correctly solved No. 2 will be given next week.*

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed and mounted P.O.P. prints must be sent.
5. All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken of them.
7. The Proprietors of THE GARDEN reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

THE FRUIT GARDEN.

CORDON PEAR TREES FOR ARBOURS, PERGOLAS OR WALLS.

THE pergola furnished with Roses and other beautiful climbing flowering plants has had a run of great success and popularity for some years. Why not give the Pear tree a more extended trial in the same way? The summer charm of the two subjects cannot, of course, be compared, and yet, in many respects, the claims of the Pear to popularity as a subject for planting in this way is undeniable. In early spring, as the accompanying illustration so well shows, it forms an object of beauty and interest which always commands and receives unstinted praise and admiration. The glossy and handsome foliage of the trees is always pleasant to look upon, and, trained thus, affords welcome shade in hot weather.

BEAUTY AND UTILITY: PEAR TREES CLOTHING A PERGOLA IN A KITCHEN GARDEN.

Not the least enjoyment of a garden in summer is the pleasure of watching the young fruit grow, while autumn brings with it not only the beauty of the ripening foliage in its varied and rich colouring, but also the substantial and generous return of a good crop of sweet and luscious fruit.

Of all hardy fruit trees the Pear is best suited for this way of training; its young shoots in summer are so pliable that they may be trained to any shape desired. As the accompanying illustration shows, the manner of construction is very simple and easy. The base of the work, however, must be so firm, and the material of which the structure is made—whether of iron or wood—so strong, as to safely resist wind pressure. Other purposes for which cordon Pear trees are well suited are for covering wall spaces quickly, or for profitably hiding ugly corners of the garden in summer. For small gardens they are a blessing without the disguise, by reason of the limited space they occupy and the large return of fruit they are capable of giving. Another advantage the cordon-trained tree possesses is that it enables the owner to enjoy quite an interesting collection of varieties in a garden of small dimensions.

Position.—This is an important matter which must not be forgotten, namely, that the trees must have full exposure to light and air all day long, and shelter from north and east winds, if possible.

Cultivation.—The Pear will succeed in any ordinarily good garden soil that is well drained, but prefers a deep, loamy soil of rather a heavy texture. It is essential to consider the character of the stock on which the trees are worked in relation to the soil in which they are to be planted. If the soil is a rich and deep loam, it would be a mistake to plant cordons worked on the Pear stock there, as the growth would be so vigorous that it would be found impossible to properly ripen it in ordinary seasons, especially that on young trees; therefore no fruit-buds would be formed and the trees would be barren. Thus trees worked on the Quince stock only should be planted on soil of this nature, because the roots of the Quince are of a more fibrous nature and remain near the surface of the ground, where they will not only derive all the benefit of this better soil, but also be where they are accessible to the benefits to be obtained from summer mulchings of manure placed on the surface of the soil over their roots. Trees bear crops much younger when worked on this stock than on the Pear. On the other hand, where the soil is comparatively poor and not of great depth, trees on the Pear stock should be planted, as they will not grow so strongly, and consequently the wood they make is easier ripened, and in case of drought they would suffer no ill-effect, as the roots of the Pear, when grown on this stock, strike down deeply into the ground for sustenance.

Preparation of the Soil.—Before planting takes place the soil should be deeply trenched and well stirred, but the bottom poor soil must not be brought to the top. It is a mistake to add organic manure to the soil at the time of planting, for the reason that it encourages, especially in young trees, too coarse and strong a growth of branches, which it will be found difficult to ripen, and in consequence will prove barren. The grower's aim should be to encourage a moderately strong growth only, so that its ripening can be assured; and there is no better way of doing this than by adding a barrow-load of good fibrous loamy soil to the soil of each tree, and where the soil is at all poor add a quart of bone-meal, well mixing it with the soil at the time of planting.

Planting.—Avoid planting deeply, especially on heavy, cold soils. It is a safe practice to follow to make sure that the top layer of roots, after the planting is completed, is not more than 5 inches below the surface of the soil. Do not plant if you can help it when the soil is sticky and wet, but choose a time when it is fairly dry. Do not let the roots of the trees be exposed to the air without cover for a moment longer than can be helped. Spread out the main roots evenly and carefully before covering with soil, serving each successive layer the same until the last layer is laid under, and, lastly, tread down the soil over the roots as firmly as possible and give a good watering if the soil is at all dry.

The Best Trees.—Three year old trees are the best to plant. A few fruit-spurs will have been formed at the base of these from which one or two fruits to a tree may be taken, without harm being done, the first year. Where it is desired that a large space of bare wall or pergola should be furnished with trees in a short space of time, there is no other form of trained fruit tree which can be used to so good an advantage. Trees from six to eight years old may safely and successfully be planted, and a space of from 7 feet to 9 feet thus covered in one season.

Pruning After Planting.—Judging from the number of enquiries received on this point, one would think that the pruning of a Pear or any other fruit tree was one of the most mysterious and unattainable of objects, a sort of sealed book, to be read only by the expert. It is really nothing of the sort, but is most simple and interesting work. The most important thing to remember in starting on the winter pruning of the Pear tree is that in ordinary pruning no shoots are to be cut in any shape or form other than the shoots of the past summer's growth, and these always consist, in the case of the cordon, of side and terminal shoots. Let every one of these be cut back, the side shoots, in the case of the weakest, to within two buds of their base, and the strongest to within three buds of their base, the terminal or leading shoot (of last summer's growth), supposing it is 3 feet long, to be pruned back to half its length. If it should be 2 feet long, 9 inches only should be cut off, and if it is only

1 foot or 15 inches long, then no shortening is required. The Pear seldom if ever bears on one year old wood, and the object the pruner has in view in cutting the shoots so hard back is for the purpose of encouraging the formation of fruit-spurs at the base of the shoots so cut back.

Summer Pruning, which in the case of the cordon tree is of much more importance than winter pruning, will be referred to again nearer the time it will need attention.

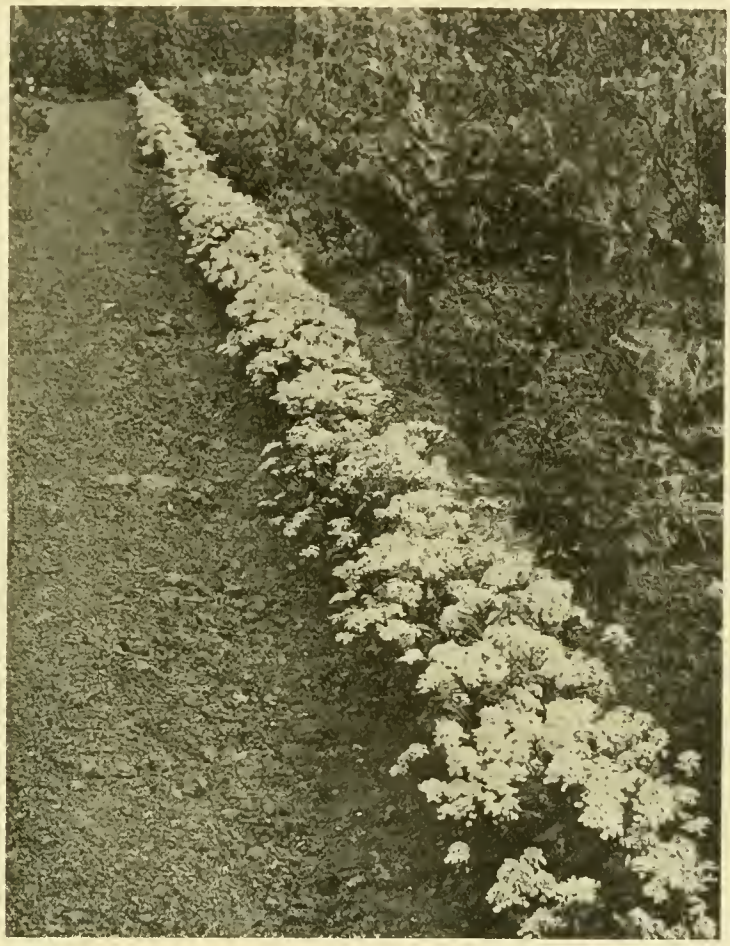
The Best Varieties.—The following sixteen varieties, which are arranged in the order of ripening, will be found among the best, and are good, healthy growers. A few trees of each should secure a good succession of ripe Pears from summer to spring. The very earliest ones are scarcely worth planting, especially in small gardens, as they are available for use for so short a time: Beurré Giffard (ripe in August), Williams' Bon Chrétien (September), Triomphe de Vienne (September), Conference (October and November), Louise Bonne of Jersey (October and November), Marie Louise (October and November), Doyenné du Comice (October and November—plant most of this, as it is the best), Emile d'Heyst (October and November), Glou Morceau (about Christmas), Winter Nelis (about Christmas), Santa Claus (about Christmas), Blickling (January and February), Bergamotte Esperen (January and February), Nouvelle Fulvie (January and February), Le Lectier (January and February), and Duchesse de Bordeaux (March to May).

OWEN THOMAS, V.M.H.

ANNUAL FLOWERS IN THE KITCHEN GARDEN.

IT has long been a source of wonder to me that more use is not made in the kitchen garden of the many beautiful annual flowers that are available. In many large establishments it is customary to flank the paths in the kitchen garden with a narrow or broad border of herbaceous flowers, a practice which has much to commend it. Not only is the whole garden made more attractive, but such borders provide an abundance of flowers for cutting—a very important item where large quantities are required.

In gardens of more modest dimensions, however, such borders are not practicable; they would encroach far too much on the space that is required for the more utilitarian vegetables, and consequently in such kitchen gardens flowers are, to use a well-known aphorism, too often conspicuous by their absence. Here it is that our annual flowers should be made to play an important part, and one that, if carried out with reasonable care, will give a great deal of pleasure for a very insignificant outlay of time and money. In most small kitchen gardens it is usual to find either bush or espalier fruit trees near the pathways, and not infrequently these come close up to the edge of the path. Where, however, the much better plan of setting them back about two feet from the pathway is adopted, room is left for an edging of flowers that may be anything from 1 foot to 18 inches in width, and here it is that we can put our annuals to good account. The accompanying illustration will give a fairly clear idea of what I mean. In April of last year the seed of the Candytuft was thinly sown in a drill 9 inches wide, and when fully grown produced the effect seen in the illustration. Owing to the thin sowing, no thinning of the seedlings was necessary, and, beyond weeding, the plants required no attention whatever. The pathway shown is about one hundred and fifty feet long, and the cost of the floral edging was 6d., the Candytuft being the variety known as Webb's Snowflake. This is remarkably free flowering and excellent for cutting, and possesses the additional merit of lasting in bloom for about seven weeks in a summer such as was experienced last year. Even before the plants flowered they formed a neat edging and added not a little to the general tidiness of the kitchen garden.



A BROAD EDGING OF ANNUAL CANDYTUFT SNOWFLAKE IN A SMALL KITCHEN GARDEN.

To carry the idea of such edgings in small gardens a little further, we might very well plant the margins of the paths in autumn with the earlier-flowering Daffodils, allowing them rather more room than usual; then early in May, when the foliage is declining, stir up the soil and sow our annuals between the Daffodils. Such a procedure would not harm either of the flowers, and would render small kitchen gardens far more attractive than we usually find them.

There are, of course, a great many annuals suitable for the purpose, but in all cases I would emphasise the necessity for having a good broad belt of one kind. A narrow edging to a long path looks lost, while a mixture of *kinds* is not to be commended. On the other hand, a good mixture of colours of one kind of plant, such, for example, as Candytuft or Virginian Stock, may be used with good effect, but do not sow a few yards of Candytuft, a few of Virginian Stock and a few of something else. Generally speaking, an annual with showy flowers should also be selected, particularly where the path is a long one. A few kinds, in addition to those already named, that occur to mind as being suitable, and which may be sown where they are to flower, are Sweet Alyssum, Swan River Daisy, Pot Marigold, Godetias, Linum grandiflorum rubrum, Lupines of the nanus set, Dwarf Nasturtiums and Viscaria cardinalis. If a prominent edging is not desired, the ever-welcome Mignonette may be used, but at a distance it does not produce a very good effect. This is, however, largely compensated by its delightful fragrance. H. H.

TWO EARLY ENGLISH FLOWER BOOKS.

(*Continued from page 652, Vol. LXXVI.*)

I DO not know how far I am right or wrong, but it seems to me that Samuel Gilbert may almost be regarded as the interpreter and populariser of Rea, in much the same manner as Kingsley in another sphere and in more modern times is said to have performed like offices for Maurice. For one thing, his "Vade Mecum" was a very much smaller work than the "Flora," and consequently it must have been obtainable at a much lower price. Then he tells us in his preface of his intention to avoid "Bombastick" words and "useless notions," and that he was going to write "plain English" as his tract was "really designed for the benefit of the meanest Florist." It is, in fact, almost entirely a flower book, as only in the Monthly Directions at the end are the work and plants of the orchard and kitchen garden mentioned, his reason for confining himself to floriculture being that fruit trees had been "well done by Mr. Langford in a pocket volume of easy price." In this his opinion coincides with that of the famous John Evelyn, who writes of this work "as I know nothing extant that exceeds it, so nor do I of anything which needs be added to it" (Evelyn's introductory letter

in the 1690 edition). The author was a clergyman, being Rector of Quatt in Shropshire and Chaplain to Jane, wife of Charles, the fourth Baron Gerard. According to Harwood's edition of "Edswick's Antiquities of Shropshire," he also practised as a physician. It was doubtless in this capacity that he published in 1676 "Fons Sanitas, or the Healing Spring at Willowbridge in Shropshire." The double calling was not uncommon in these early times, and with communication slow and a country thinly populated, it is easy to see the utility of such as arrangement. As I have already mentioned, Gilbert married Rea's daughter, Minerva, and he appears to have lived for the greater part of, if not his entire married life with his father-in-law at Kinlet, near Bewdley. He had one son and four or five daughters. He probably died about 1692 to 1694. To the garden-lover he is known as the author of "The Florist's Vade Mecum," a small 12mo. manual, with which, in the 1683 or first edition, was bound up his "Gardener's Almanack" to last from 1683 to 1687. It also contained his portrait. The work passed through several editions; according to the "Dictionary of National Biography" they appeared in 1690, 1693, 1702 and 1713. My own copy bears the date 1693, and is called "The Second Edition Corrected." This is the copy whose pages we are going to turn over. But before I begin, in order to bring home to my readers the estimation in which this little book must have been held, I would mention that I possess *the first and second* editions of "The Complete Florist, or the Lady and Gentleman's Recreation in the Flower Garden," which is nothing but a very obvious plagiarism of the "Vade Mecum."

As might naturally be expected, Gilbert makes considerable use of his father-in-law's "Flora," but there is no slavish imitation. His work appears to be very much his own, in arrangement, in feeling, in composition and in style. He is always letting off steam in some quaint poetic effusion.

"The Daffodils are by the Curious
(Whether Legitimate or spurious)
Accounted beauties in their time,
Deserving notice in our Rhime.
But since 'tis here so poorly done,
They hang their heads, ashamed to own
What so much flats their reputation;
Such Limping-languide commendation:
Lest Honour loose; with yellow Jealousie
Fretting fall to the earth and mourning die."

The flowers are arranged in the sequence of their "blowing." Each month as it were takes under its wing the particular ones which should be in season then. The following are those to which most space is devoted, and accordingly may be claimed as the most popular ones at the time the book was first published: Crocuses (some twenty varieties), Primroses, Hepaticas, Hyacinths, Bear's Ears (double and single), Tulips, Fritillaries, Anemones, Stock-Gilliflowers, Ranunculuses, Peonies, Irises, Roses, Lilies, Molys, July-flowers, Jasmines, Flower gentles, Colchicums and various "greens," such as the Orange and the "Mirtle." Of these, as being the most popular of all I would single out Tulips, Auriculas or Bear's Ears, Anemones and July-flowers or Carnations. This selection is borne out by those which are specially mentioned in "The English Gardener," a contemporary work by one Leonard Meager, who, when he wrote, had been thirty years a "Practitioner in the Art of Gardening." July-flowers and Bear's Ears ran Tulips very hard in popular favour. Gilbert says, "Caryophyllus hortensis, called July-flowers from the month they blow in, and are indeed the Summer's glory as Tulips the pride of Spring, deserving a Flowerist's care in their propagation and preservation, especially the nobler forms, which are called the Dutch-July-flowers or, more vulgarly, Carnations." Roses are said to be "one of the chiefest ornaments that enrich our Gardens." Thirty varieties are noted and described, and there are hints on budding and various points of culture.

"Who would not then these sweet-leaved flow'rs
esteem
So rare, when either felt, or smelt, or seen?"

Directions are given for making a hot-bed, and the necessity of having a summer-house is insisted upon in a rather long piece of poetry, in which he moralises and bids us

"ourSelves as Gardens keep;
Pluck up the Weeds of Sin, soon as they peep."

The last few pages are taken up with "Monthly Directions what ought to be done both in the Kitchen and Flower-Garden for ever." Here we have the most interesting part in the whole book. As an introduction to what is to follow, two pages of astrological gardening are inserted. Arranged under ten heads elaborate instructions are given as to when certain operations should be done or when they should not be attempted (*sic*). 2. Trees are not to be grafted the moon waning or not to be seen. 4. Sow or plant when the moon is in Taurus, Virgo or Scorpio and in good aspect of Saturn. 8. Set, cut or sow what you would have speedily shoot out again or spring and grow, in the increase of the moon.

One wonders how a man could do so who gives such reliable hints on culture as those, for example, of the Fritillary: It "loses its fibres like the Tulip when the stalk dies down," and it must not be kept out of the ground "longer than August lest thereby the roots perish or be much weakened by it." There is not a single word about the moon or any of the planets until we come to the "Directions." There was not a hint of any such thing in Rea. How came it that they are now inserted in the "Vade Mecum"? I can only presume Gilbert was carrying out what he had previously written and what I quoted in my last article about "Jackanapes on Giant's shoulders." Owing to the writings of several foreign botanists and doctors, and probably in our own land, more especially to those of Culpeper (1616—1654) in his "Physicall Directory," the idea that the planets exercised an influence upon plant-life gained wide credence in the latter part of the seventeenth century. The subject is one of much interest. All that I can do now is to suggest that certain gardeners—Gilbert among the number—thought that there might be something in it, and, in case there was, took the precaution of giving a few of the leading principles of the then fashionable theory. Meager, before referred to, says: "Perhaps it might be expected by some that I should say something as to the observation of the moon in sowing, planting, grafting and pruning . . . assuredly notwithstanding the best of my diligence I have not had always like success wherever the fault was; but I shall set down a little what some others have writ concerning the observation of the moon." The same idea may have occurred to our author. He would be on the safe side if he, too, included a little of what others had written about the moon and planets, but I do not believe he followed them himself. I trust I may have stimulated the curiosity of some of my readers sufficiently to make them wish for more detailed information about the contents of these two old flower books.

JOSEPH JACOB.

THE GREENHOUSE.

WINTER-FLOWERING BEGONIAS.

IT is now many years since the conjunction of the distinct Begonia socotrana and some members of the tuberous-rooted section gave rise to quite a new race of winter-flowering Begonias, which rapidly made headway in popular favour. In nearly all the earlier examples, however, the flowers are of some shade of carmine; but last year Messrs. Veitch showed some forms, all with single flowers, characterised by unusual vigour, large-sized blooms and, above all, by the distinct shades of orange and rose represented among them. This class has received further additions during the present season. Though fairly well acquainted with these Begonias, a splendid group put up by Messrs. Clibran of Altrincham at the Royal Horticultural Hall on November 19 contained some eye-openers. The flowers of many of their varieties are perfectly double and of different shades of colour, the pink, warm salmon and orange tones being particularly striking among the varieties that are now being distributed. Four were given awards of merit, namely, Lucy Clibran (buff salmon, suffused orange), and three quite new forms—Eclipse (salmon red), Scarlet Beauty (bright scarlet), and Splendour (rich crimson-scarlet). All of these have semi-double flowers. This group also contained some small seedlings, which, though considered to be insufficiently developed to place before the floral committee, aroused a deal of interest among the specialists present. The flowers of some of these were large, perfectly double and of an intense crimson colour. Not only are the members of this section valuable for their own intrinsic merit, but as the harbingers of a new race they are doubly welcome, and we shall doubtless soon see the members of this section within close comparison of the summer-flowering kinds. The later novelties show a greater vigour than we have hitherto obtained among the socotrana hybrids.

H. P.

A GRAND WINTER-FLOWERING ORCHID.

(ANGRÆCUM SESQUIPEDALE.)

THE chief interest in this remarkable Orchid is centred in its ivory white flowers, each with a long tail-like spur. In some Angræcums the spurs are coiled as in A. Kotschyi, which invariably has two spiral twists in each of its whip-like spurs. In the species under notice the spurs are not twisted, but their length—usually from 10 inches to 18 inches—appears out of all proportion to the size of the flowers. The spurs contain nectar, but only very long-tongued insects, such as some of the tropical moths, could ever hope to reach it by way of the labellum.

Plants under cultivation produce their flowers from November till January, and the flowers last some weeks—a point of some importance at this time of year. The leaves are evergreen and produced in two opposite rows, while roots are emitted from the stem—a common occurrence among epiphytal Orchids.

This Angræcum could only be successfully grown in a warm house or stove in which a winter temperature of about 60° Fahr. is maintained. A suitable rooting medium comprises a mixture of crocks, charcoal and sphagnum moss, a dressing of fresh sphagnum moss being arranged, cone-shaped, around the stem. Angræcum sesquipedale was introduced from Madagascar in 1823.

ANNUALS AS GREENHOUSE PLANTS

(Messrs. Sutton & Sons)

Hudson & Kearns, Ltd., Printers, London, S.E.

COLOURED PLATE.

PLATE 1462

ANNUALS AS GREENHOUSE PLANTS.

DURING recent years a great deal of attention has been given to the cultivation of annual flowers as greenhouse plants. Their simple cultivation, low cost and inimitable beauty when in flower demand that they should be much more widely grown in this way than they are at present. Thanks to the efforts of Messrs. Sutton and Sons, who have for some years past made a wonderful display of pot-grown annuals at the Temple Show, and last year at the Great International Exhibition, their value for the greenhouse is becoming widely recognised.

To those who have not seen the displays mentioned, the coloured plate presented with this issue will convey some idea, at least, of the beautiful effect obtainable from plants that are too often and erroneously looked upon as common denizens of the outdoor garden. The plate has been prepared from a colour photograph taken in the conservatory at Mr. Leonard Sutton's private residence. The conservatory is quite an ordinary structure, and is never heated to any great extent. We mention this because many people seem to imagine that elaborate heating arrangements and special houses are necessary for the successful cultivation of annuals in pots. The following cultural details have been kindly sent us by Mr. Sutton's head-gardener, who is responsible for the cultivation of the plants shown in the coloured plate: "When once the full value of annuals becomes known, I feel sure they will rank first and foremost among our greenhouse flowering plants — first, because their cost is very trifling; secondly, they provide a brilliancy of colour and wealth of bloom that cannot be equalled by any other class of flower in such a short period; and, thirdly, they require so very little heat—in fact, the cooler they are grown, the better the results. For example, Clarkias (the elegans class), Alonsoa Mutisi, Nemesias, Lobelia, Phlox Purity, Antirrhinums and Anchusas, nearly all of which will be seen in the coloured illustration, were, with one exception, sown in the months of January and February.

The cultivation of these annuals in pots is easy, because they all need practically the same treatment, the same compost and the same temperature. Take, for instance, the Clarkias shown at the Temple Show. Seed of these is generally sown during September, but good specimens, such as are seen in the illustration, may be had from seed sown as late as February. The seed is sown in shallow boxes and placed in a cool house. As soon as the seedlings are fit to handle, prick them off in shallow boxes 3 inches apart, and when they have made two or three pairs of leaves, nip out the points of the growths; this will induce them to break and make fine bushy plants. Later, pot singly into middle 60's, and on reaching the height of about nine inches, again remove just the points. For the final potting into 6-inch or 8½-inch pots the soil should consist of two-thirds good loam, broken up, and one-third leaf-mould, with an addition of a little soot and bone-meat. Water carefully until the plants are well rooted. The best varieties for pot culture are Sutton's Scarlet Beauty (the brightest coloured of all Clarkias), Sutton's Firefly (vivid scarlet-crimson flowers, the long, graceful sprays lending themselves admirably for vase decoration), Double Salmon, and Sutton's Snowball (pure white flowers and exceptionally double).

A WELL-GROWN PLANT OF AN INTERESTING AND BEAUTIFUL MADAGASCAR ORCHID (ANGRÆCUM SESQUIPEDALE).

Alonsoa Mutisi and A. Warscewiczii compacta make charming subjects for greenhouse decoration, the former having delicate pink flowers, each with a deep crimson centre, while the latter has racemes of bright scarlet flowers and dark green foliage. Seeds of these may be sown during September and gently grown on, and some more for a later batch in February. The cultural treatment is exactly similar to that given for the Clarkia, for the final potting using 4½-inch or 6-inch pots.

Phlox Purity is a beautiful pure white perpetual-flowering Phlox for the greenhouse. It makes a charming pot plant, and the fact of its being sweet-scented makes it all the more welcome. Seedlings from a September sowing, grown in cool frames and finally potted into 4½-inch pots, will be in full flower in May. A batch from a February or March sowing will commence flowering in June. Antirrhinums, as we all know, are really hardy perennials, but when once their full value becomes known as annuals in pots for the decoration of the conservatory, they will be in as much demand as the Clarkias. The cultural treatment is exactly the same as advised for Clarkias, with the exception that they do not require pinching. Such varieties as Sutton's Tall Cloth of Gold, Pure White and Tall Golden Chamois, Intermediate Fire King, Delicate Pink, and Coral Red, when once seen grown under glass, are a sight not to be forgotten.

Nemesias are beautiful South African annuals that make exceedingly pretty pot plants with their diversity of colouring and floriferous character. Nemesias are splendidly adapted for grouping by themselves in the conservatory, or for use in the mixed greenhouse, as will be seen in the coloured plate. Sow seed in shallow boxes during February, keeping in gentle heat until the seedlings are large enough to handle, when they should be pricked off and gradually hardened. It is a mistake to keep them in a high temperature. Later, pot singly into small 60-sized pots and place close to the glass. When fairly rooted, pot in large 60 or 48 sized pots, in which they will flower. The compost for this potting should consist of two-thirds good loam, broken up, and one-third leaf-mould, with an addition of coarse silver sand, wood-ashes and bone-meal. Remove to a cool frame and keep close for a period until root-action again commences. Afterwards gradually harden by giving air until the lights can be removed altogether. The cooler the treatment Nemesias are given, the dwarfer and more bushy will be the plants. The best varieties for pot culture are Sutton's Large-flowered in separate colours, such as Pale Yellow, Rose Pink, Crimson, Rich Orange, White and Scarlet."

A USEFUL GREENHOUSE CLIMBER.

LANTANA SALVIÆFOLIA has considerable merit as a climbing plant for the greenhouse, though it is very seldom employed in this way. It is of a free habit of growth, and if the main branches are secured to a roof or rafter, the long, slender shoots hang down for a considerable distance. The flowers, which are, as in the other Lantanas, in rounded heads, are of a lilac colour, and borne for a considerable distance along the shoots. H. P.

GARDENS OF TO-DAY.

WARTER PRIORY, YORK.

ON the Yorkshire Wolds, some 800 feet above sea-level, are situated some of the most extensive and beautiful gardens that can be found in the country. Anyone visiting those at Warter Priory, which belong to the Dowager-Lady Nunburnholme, have no need to be reminded that the owner—besides being an architect of no mean order—is a most enthusiastic and clever gardener, for here originality proclaims itself on every side.

The Priory and its grounds are surrounded by densely-wooded hills and verdure-clad dales. An adequate water supply is obtained from numerous springs in the hillsides; hence the name of Warter, which was formerly spelt in the orthodox way.

From the mansion one sees goodly stretches of velvety lawn connected by bold terraces, with ornamental stone walls covered with Roses and various creepers, which, in summer and early autumn, are ablaze with colour. As we ramble through a fine old rustic pergola we come to the Italian garden, with its wealth of bloom, statuary and fine topiary work. Of special interest at this point is a broad flagged path, considerably more than a hundred yards long, parallel to which, but separated by informal beds, runs a fine Rose hedge of the old and well-known variety Fellenberg. To the south-west of this is a carefully-planned and charmingly-situated reclose, in the centre of which stands a massive Italian well-top, brought by the owner from Italy.

We proceed by way of the lake, well stocked with golden trout and furnished with water plants, through the Rose garden, resplendent with large beds of sterling varieties, to the spacious Dutch garden, with its quaint ornaments. We then come to the greatly-admired sunk garden and its companion, the cottage garden (a most original feature—see illustration on page 9), complete with a tea-house of the Gothic style and a delightful wishing-well almost encompassed with Rosemary, Lavender and various twining plants.

From a somewhat elevated point close by we view a long dry wall, divided at suitable distances by wide steps, or, to be precise, rough-hewn stepping-stones, the whole overgrown by alpines in Nature's own way. Here, too, we get our first glimpse of the rock and water garden, and as we take our steps along the rippling, tumbling, sometimes rushing stream, we cross and recross at our leisure to admire the endless variety of flowers and plants on either side. We marvel at the combination of colour, and at length come to the cascade and watch the water-wagtails dart beneath the showers of spray as the water tumbles over the rocks into the turmoil below. We are loth to leave such a scene, but must needs follow our guide through the quite recently made wild garden and dry tennis court to the gardens across the park.

On entering the kitchen garden we meet with another surprise. Besides most worthy examples of fruit and vegetables we espy a harvest of flowers on all sides—borders of Roses, Carnations, Chrysanthemums, Pæony Dahlias, annuals, herbaceous plants and half an acre of Sweet Peas. All these are grown, we are told, for the embellishment of the mansion. A large supply is needed for this purpose throughout the year. The newly-built glass-houses are numerous, and the fruit and flowers grown therein are—as is vegetation in all other departments—brought to a high standard of excellence. It is no wonder that such an all-round gardener as the superintendent, Mr. F. Jordan, is often seen judging at the leading horticultural exhibitions.

About five thousand Tree and Malmaison Carnations are grown, and among other things are quantities of Ixoras, Gardenias, Gesneras, Euphorbias, Cyclamen, Cattleyas, Calanthes, Cypripediums, Begonias, Bouvardias, Pancratiums, Camellias, Liliums, Callas, Plumbagoes, Pelargoniums, Cinerarias, Primulas, and quite a host of decorative and exhibition Chrysanthemums.

Fruit is well represented at Warter Priory. There are ideal vineries, and the Vines raised from eyes over two years ago produce large, shapely bunches of Grapes. Peaches, Nectarines, Figs, Cherries, Plums, Apricots and Melons are grown in quantity under glass, and Apples and Pears are included in the pot fruits.

Our guide leads us along a winding leafy drive, which brings us to the picturesque village of Warter. Here one sees well-tended gardens with a choice collection of plants seldom met with in cottagers' gardens. Prizes are awarded annually for the most effective cottage gardens.

Another short, steep drive to the south of the Priory, and we suddenly enter the snug little village of Nunburnholme, asleep—so to speak—to the rest of the Wolds. From here we turn our faces homeward with the unspoken, but none the less sincere, wish that the lady whose gardens have given us such pleasure may live long to promote the noble art of gardening.

Walton, Warwick. SIDNEY LEGG.

A HOUSE OF GARDENIAS AT WARTER PRIORY, YORK.

THE ROSE GARDEN.

NOTES ON THE NEWER ROSES.

SOME DECORATIVE VARIETIES.

(*Continued from page* 641.)

Excelsa (H. M. Walsh, 1910), wichuraiana.—A double-flowered Hiawatha, rather deeper and better coloured than Crimson Rambler, with the advantage of being late flowering.

Flower of Fairfield (Schultheis, 1908), a perpetual (so called) flowering Crimson Rambler.—It undoubtedly flowers on the wood of this year's growth, but is terribly subject to mildew, and I have discarded my plants of it this autumn.

Miss Hellyett (Fauque et Fils, 1909), wichuraiana.—To my mind this is one of the best of recent introductions in this rapidly-growing class. It is a very vigorous grower, as rampant as American Pillar, and the flowers are of large size for this class, in the bud stage not unlike Lady Waterlow, opening out into flowers that resemble that beautiful Tea Mme. Antoine Mari. It is a midseason rather than an early flowerer; its only fault is that so far one would not call it particularly free flowering, but I do not think, when it has become established, one would have to find fault with it on that account. Sweet-scented, bright rosy carmine outside petal, fading into a blush flesh in the large open flower. Those who have not got it should certainly try it; it has been very much admired here.

Sarah Bernhardt (Dubreuil, 1908), Hybrid Tea.—This should be in every garden. A semi-climber, good for a 10ft. pillar. The flowers are a brilliant scarlet-crimson that does not fade into an unpleasant shade, but becomes quite a good velvety purple. The flowers are quite large, and although only of few petals, one might call them semi-double, yet the younger blooms have quite a good point and are of excellent shape. It is free flowering, and the flowers are produced in trusses

A WATERFALL IN THE ROCK GARDEN AT WARTER PRIORY.

of three to five on the laterals from last year's wood in the early part of the season, and again in the autumn on the wood of this year's growth. Not quite free from mildew, perhaps, but only slightly attacked. With me it has been one of the most satisfactory of the new climbers, and I can thoroughly recommend it to the trade (who appear to have overlooked it) and amateur alike.

Seagull (M. Prichard, 1909). — A very pretty little single, flowers the size of a shilling, colour pure white with yellow stamens, produced in very large clusters containing fifty flowers or more. It is a very rampant grower, having made several shoots more than twenty feet long with me this season. The flowers are not unlike that old-fashioned Rose The Garland, but are a better and purer white. I should say it is mildew-proof. It only flowers once, but the buds are so numerous that it is in flower for quite two months.

Sheilagh Wilson (Paul and Son, 1911).—A semi-climbing Hybrid Tea raised by Dr. J. Campbell Hall. I first saw it in his garden at Monaghan. It is described as a better-shaped and longer-petalled Carmine Pillar — and this is true of it—but so far with me it has not proved anything like so free flowering as that variety, and might almost be described as a shy flowerer. It certainly is more perpetual, and I had a few flowers in the autumn; but so far it does not grow with me beyond 8 feet. Perhaps when it is better established it will improve both in the quantity of flowers and in growth.

Shower of Gold (Paul and Son, 1910), wichuraiana. —This is quite a good Rose, but I am told that Klondyke, Messrs. Paul's latest introduction, is even better. They both have most beautiful foliage, and the Rose under notice is certainly one of the best yellows, not particularly strong growing, but making, with me, an excellent pillar Rose. The flowers are of fair size, double, rosette-shaped, retaining their colour until almost the last, when they fade to white. The contrast with the foliage is excellent; indeed, the Rose is worth growing for the foliage alone, so beautiful is it. Klondyke has not yet flowered with me, but I am told the flowers are of a better shape, a deeper colour and an improvement on Shower of Gold.

Sodenia (Weigland, 1912), wichuraiana.—I have not grown or flowered this variety, but it has been recommended to me to get, so I have a plant of it. It is a carmine pink of very deep colour, approaching a scarlet; described as having a larger truss than Dorothy Perkins, and lasting for a long time on the plant. A good grower that may prove an acquisition.

Southampton. H. E. MOLYNEUX.

(To be continued.)

SOME GOOD FRAGRANT ROSES.

WHEN selecting the Roses for our gardens at this season of the year, it is of the utmost importance that varieties possessing the precious attribute of fragrance should for the most part be chosen in preference to others which have not been endowed in this special direction. I have for many years

THE COTTAGE GARDEN AND TEA-HOUSE AT WARTER PRIORY.

been an ardent cultivator, amid great difficulties, of Roses, especially Hybrid Perpetuals, Teas, Noisettes, Austrian Briars, wichuraianas and Hybrid Teas, and I am strongly of opinion that a Rose destitute of fragrance is like a beautiful woman without sweetness of nature. Who that sees Frau Karl Druschki for the first time and has heard that one of its august parents is the intensely odorous Caroline Testout (the other being Merveille de Lyon) could possibly imagine, from its outward aspect, that such an absolutely peerless beauty among pure white varieties should know nothing of that subtly pervading fascination that only fragrance can confer?

There are many cultivators, like the late Dean of Rochester and the Rev. H. D'ombrain, who would gladly prefer for the adornment of their much-loved, gracious gardens such intensely odorous varieties, though of widely different complexion, as La France, Caroline Testout and Viscountess Folkestone, of which the last-mentioned Hybrid Tea, one of the very finest creations of the late Mr. Henry Bennett, has not yet been superseded, in my estimation.

There is at least one extremely graceful pure white Rose of pendulous tendency which has an exquisite fragrance, derived directly from Souvenir d'un Ami, and that is the variety called The Queen in America, and in this country Souvenir de S. A. Prince. This is a Tea that unfolds its floral treasures very late in the autumn. At the end of September I had it still flowering serenely and fragrantly. I have, therefore, no hesitation in recommending this charming Rose, which received its English name from the late Mr. Prince of Oxford, to those readers of THE GARDEN who desire to include in their collection of Tea Roses, however strictly limited, a truly sweet-scented, snowy white variety.

There are quite a number of eminent representatives of this attractive section, such, for example, as Catherine Mermet, The Bride (whose delicate green suffusion below the petals makes it seem among Roses what Lilium speciosum Kraetzeri is among Oriental Lilies) and the White Maman Cochet, which have a highly distinctive fragrance, like that of a Nectarine or a ripe Peach. I find that, as a general rule, Roses of the closely compact Catherine Mermet family are arduous of culture, and especially in a shady garden such as mine, requiring a richly fertile soil and a warm, ripening season for their perfect floral evolution. There are many of the so-called Hybrid Perpetuals that have an exquisite fragrance. Those I most admire are Captain Hayward, Hugh Dickson (a very near approximation to perfection), Florence Haswell Veitch (a recent and notable introduction), Lady Helen Stewart (a lovely native of far-famed Newtownards) and my own beautiful carmine rose namesake from Waltham Cross, which the late Mr William Paul expressively described as "one of the sweetest Roses in cultivation."

A refined aroma emanates in the tranquil, dewy evenings of summer from the China Roses, while supremely fascinating are the Austrian and Penzance Briars with their radiant flowers and fragrant leaves.

DAVID R. WILLIAMSON.

ROSE MISS CYNTHIA FORDE.

THIS is certainly one of the most promising of Hybrid Teas brought out within the last few years. It is very free flowering, and good alike for garden and for exhibition purposes. Already it has gained distinction as an exhibition Rose by the fact that the bloom illustrated on this page and shown by the raisers (Messrs. Hugh Dickson) secured the silver medal at the last autumn show of the National Rose Society for the best Hybrid Tea in the show. As a garden variety this Rose possesses two precious gifts—it is almost, if not quite, mildew-proof, and is sweetly fragrant. It is brilliant rose pink in colour and possesses exceptional merits as a bedding variety. When introduced in 1909 it received the gold medal of the National Rose Society, and so far it has proved worthy of this high honour. It is true that the flowers are not quite so erect as one would wish, but its many other good points more than compensate this slight failing. It was one of the most admired of the Roses in our garden last summer.

SILVER MEDAL BLOOM OF ROSE MISS CYNTHIA FORDE.

THE ROCK AND WATER GARDEN.

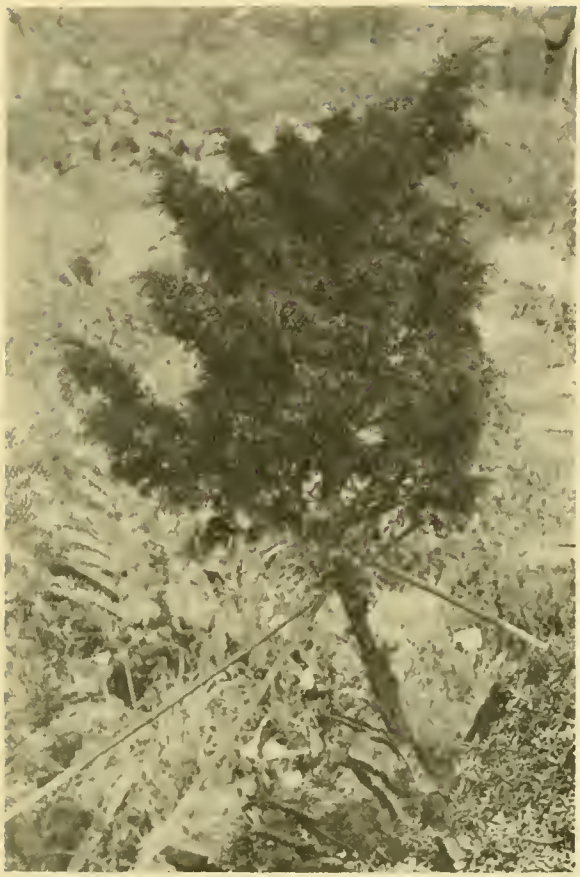
POTENTILLA CLUSIANA.

POTENTILLA NITIDA, from the Dolomites, we all know, with its exquisite mats of silver foliage peppered thick with little blushing Dog Roses. (And if the peppering prove too sparse in our gardens, I believe that poor soil and squeezing the plant between stones may produce wonders in the way of blossom.) But its no less beautiful snow white counterpart, P. clusiana, seems to be almost unknown among us. It is a species of the Eastern limestones, where it replaces P. nitida at considerable elevations on cliffs and rocky ridges. It is only less beautiful than its rosy rival, developing into large, low masses of silver grey foliage (but not so silvery as in P. nitida), with abundance of great flowers of the purest white, not quite so large nor singly borne, nor sitting quite so close to the tuft, but none the less of very special beauty and brilliancy in all its forms, and, in the best, a really remarkable plant. Between the snowy petals peeps the hint of a rosy sepal, which gives an added charm. P. nitida and P. clusiana, woody-rooted, and often hanging in huge sheets from a microscopic crevice in some sheer limestone precipice, are both impossible to collect entire. Fortunately, however, the broken-off cushion can very easily be made to root as cuttings, and I see no reason to doubt that P. clusiana will prove to be of perfectly willing culture and a real treasure in the garden. Like P. nitida, it enhances its beauty and its value by showing both in late summer, when almost everything but the Campanulas is gone to seed. I never saw it before 1911, nor collected it seriously till last year; but it attracts me very greatly, and I desire to see nothing more beautiful than a great grey cliff hung with its silver green masses, on which like thick-set stars stand out the milky brilliance of its blossoms.

REGINALD FARRER.

DWARF TREES FOR THE ROCK GARDEN.

EVERYONE is familiar with the charm that dwarf or slow growing conifers give to the alpine garden when judiciously placed, and, being evergreen, they give a furnished appearance to the garden even in the depth of winter. One of the drawbacks, however, which become apparent when they are grown in sheltered places, free from the tearing gusts of wind which their giant relatives have to withstand in the alpine regions, is that they are apt to grow very dense and crowded, and so lose the characteristic lines which an old weather-beaten



1.—AN UNTRAINED AND ILL-SHAPEN CONIFER. NOTICE HOW DENSE THE HEAD IS.

tree assumes. This is probably accentuated by very little attention being given them with regard to their shape by the nurseryman.

Conifers in the mountains, where they often look so picturesque clinging to some projecting crag, do not have this mop-headed appearance, but show an airy grace which, if we could secure it in our small specimens in the alpine garden, would be a great acquisition. Having made some experiments in this direction, I venture to bring them forward so that others may take advantage of any merit they may possess, and doubtless other growers will vastly improve upon my examples.

Photograph No. 1 shows a little conifer just as received from the grower, and though it appears somewhat ill-shapen, had, in my opinion, the making of a suitable specimen for a projecting shoulder in the rock garden, if only the matured aspect could be introduced into it. It illustrates the dense cluster of growth which is more or less often met with in young, slow-growing conifers. I carefully planted it in the desired spot, and roughly staked it to prevent movement by wind. After rain had consolidated the soil about its roots, I replaced the three sticks with three pieces of thin copper wire, this standing the weather better than most other kinds, and having the very great advantage, in my case, of becoming almost invisible by tarnishing in a short time. Small bandages of leather were placed upon the stems, before putting the wires on them, to prevent chafing. Then, by gently bending down the branches into positions which were more suitable for the effect I desired, and fixing them with short pieces of copper wire, either to the previous supports or to the main stem, aided by judicious thinning out, where necessary, those places where growth was superfluous, the result obtained was as illustrated in photograph No. 2.

After a week it was impossible, at a distance of 5 yards, to detect the wires. The two photographs were made at an interval of eighteen days, and I think the second one gives a better idea of a matured tree on a small scale than the former, and certainly is more decorative in appearance. From my own experience I think the greater number of dwarf conifers one sees in different alpine gardens could with advantage be so treated, except, perhaps, the rigidly erect growing ones. Of course, after a time—varying with the age of each subject dealt with—the wires may be removed, the branches having hardened sufficiently in the desired positions to so remain.

This method of procedure appears to open up a considerable avenue for decorative treatment, at an insignificant cost, and will, I think, lead to a more general use of these charming little trees in our rock gardens. REGINALD A. MALBY.

[There are many dwarf conifers suitable for the rock garden, but few are better adapted to the work than Junipers. Among others should be mentioned Picea pungens argentea pendula, P. p. diversifolia, P. orientalis pygmæa, P. o. nana, P. Ramontii, Pinus montana, P. Strobus prostrata, P. excelsa dumosa, P. e. globosa nana, Thuya dolabrata letivirens, T. japonica pygmæa, Tsuga canadensis pendula and Cupressus obtusa nana. ED.]

VIOLA FLORAIRENSIS.

A HYBRID between V. rothomagensis and V. calcarata was found six years ago in our garden here, and proved so superior to anything else that we gave it the name of Floraire. It is a very low and rather creeping plant, like V. saxatilis, but its flowers, instead of being dark purple, are pale lilac, with a light blue centre, marked with fifteen or seventeen dark stripes, and with a golden eye. The flowers are large and well formed, but the main charm of the plant is its long, or, rather, its perpetual efflorescence. It flowers here the whole year through. I do not know another plant so floriferous as this one and so easy to cultivate. It sows itself everywhere when once established in a rockery.

H. CORREVON.

Floraire, near Geneva.

THE FLOWER GARDEN.

LILIES: A CAUSERIE.

SURELY there can be nothing worth saying about Lilies that is unsaid. Poets and folk-lorists, writers of gardening books and scientific botanists have, to speak figuratively, worn the poor things to death. But to speak the open and shameful truth, the gardeners have done the same murderous deed, and, nothing ashamed, are ready to repeat the treatment to fresh victims. It is this annual slaughter of the innocents that makes me feel I have a mission to fulfil, a plea to plead (one does plead pleas, does one not?). I am as well qualified for it as the Scotchman, who on his deathbed advised his son thus: "Honesty is the best policy, Jeamie, I ken full well, for I hae tried both." Many a Lily have I murdered with the assistance of the Lily-poisoning soil and dry, scorching summer atmosphere of this garden, and therefore I can warn. On the other hand, some pleasant groupings of Lilies have apparently settled down and so far improved from year to year that I feel I may advise. Notice I write "apparently" and "so far." That is my epistolary method of "touching wood." So often have sudden death and total disappearance followed my boastings in print of the glories of a fine specimen of some rare plant that I must confess to an uncanny feeling of dread in writing of successes, and a superstitious hope that a carefully-expressed diffidence of future prosperity may blind the Evil Eye and preserve my darling from the palate of

2.—THE SAME CONIFER AFTER THE BRANCHES HAD BEEN TRAINED AS DESCRIBED IN THE ACCOMPANYING ARTICLE. NOTE THE NATURAL CONTOUR

the slug. It is too true that hundreds of thousands of Lily bulbs reach this country annually, only to flower and die. This is, in a great measure, due to the nature and structure of their bulbs. The many scales of which they are composed are, in fact, underground leaves, in which a great amount of nutriment has been stored. They may be compared with certain succulent plants, such as the Aloes and Agaves, which produce large fleshy leaves of great size and weight, and for many years continue to store up a reserve of food in them. The Agaves at length use it all up in a mighty effort of flowering and seeding, and then perish; but Aloes, Gasterias and such plants use but little of the store when their roots are healthy and have access to food and moisture, and even form new leaves in a season as well as produce flowers. Lilium giganteum resembles the Agave, and after storing food for some six or more years, exhausts it all in one rapidly-growing flower-stem. L. tenuifolium also naturally flowers, seeds and dies; and though preventing its bearing seed may prolong its life for another season, that is all that can be done, and it seems best to gratefully accept all the seed it will give and, when ripe, to sow it—as the Irishman said, "at once, or sooner if possible." But most Lilies follow the example of the latter type of succulent plants, and when healthy and in suitable surroundings add annually to the number of their bulb scales and the general weight of nutriment.

Thus it happens that Lily bulbs can be grown to a good size and weight, and having so much food stored in them, even after months of knocking about on journeys and in sale-rooms, are still alive and capable of flowering in the following season, but they are invalids, and without the treatment of a convalescent home their brave and cheerful display is at the expense of their strength, and their label becomes a mere tomb-stone.

Therefore I warn and exhort thus: If you cannot procure home-grown sound bulbs in September, but are tempted by the lower prices of imported ones, measuring as many inches round the chest as the Fat Boy of Peckham, in December, and wish to save their lives and have some hope of establishing them permanently in your garden, you must pot or box up the bulbs in a mixture of sharp sand and leaf-soil, keeping them in a cold frame or house until they are well rooted, planting them in their permanent homes in spring just before their stems appear above ground; and, most important of all, you must make up your mind to forego the first season's flowers and harden your heart to nip off all the tiny buds as soon as they can be detached without injuring the surrounding leaves. Otherwise, I fear you must be classed among the murderous horde of Lily slayers, who squander their pelf on buying and killing Lilies annually to make a gay garden.

Waltham Cross. E. A. BOWLES.

(To be continued.)

THE KITCHEN GARDEN.

SOME GOOD PEAS TO ORDER NOW.

THE summer and early autumn of the year that has just closed will long be remembered as exceptionally good in most localities for that best of all vegetables, the Green Pea. Right away from the earliest sowings until well on into September an abundance of pods were to be gathered in most gardens, but owing to the excessive wet experienced during the autumn, the seed crop in many districts did not ripen so well as we might have wished. For that reason there should be no delay in ordering seed for sowing during the coming season; and with a view to guiding those who may be in some doubt as to which sorts to purchase, I propose to name those which did particularly well with me, or which I had ample opportunity of watching closely in other gardens.

FIRST-EARLY PEA MAYFLOWER, A GOOD FREE-CROPPING VARIETY FOR LARGE OR SMALL GARDENS. (*Much reduced.*)

First Earlies.—Previous to last year I had not grown Carter's Eight Weeks, but so well did it behave that it will certainly find a place in the garden again this season. It is a very dwarf and robust variety, exceptionally hardy, and one of the freest cropping early Peas that I know. Its quality, too, is excellent. Mayflower, sent out by the same firm, follows Eight Weeks very closely, and is a grand Pea in every respect. It grows 18 inches high and is really a wonderful cropper. The accompanying illustration of a portion of haulm will serve to show its cropping powers, but, naturally, the pods are very much reduced in size. Pioneer is an early Pea that I like very much. It grows about three feet high, is very hardy and early, crops freely, and is of excellent flavour. Of similar height is Sutton's Ideal, a beautiful dark green podded variety that crops exceptionally well and is superb when cooked. Sutton's May Queen is also a grand first-early Pea of the taller section.

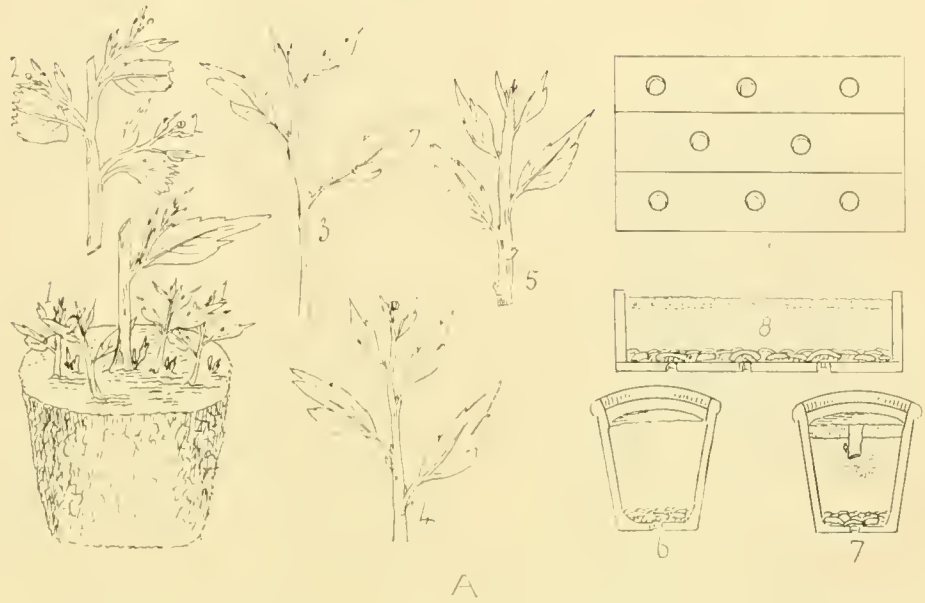
Second Earlies.—A splendid pair that come from the Reading firm, and which belong to this section, are Centenary and Prizewinner. The first named is a grand Pea for exhibition purposes and also of excellent quality, but with me it did not crop so heavily as Prizewinner. This last named I have grown regularly for seven or eight years, and no matter what the weather may be, it always does well. It is of first-class quality and a good all-round Pea. A new second early that I grew for the first time last year was International, sent out by Messrs. Carter and Co. Unfortunately, birds crippled a portion of the row, but that part which escaped their attention gave splendid results. International is undoubtedly a Pea that has come to stay. It is a little on the tall side, reaching a height of nearly six feet, but it is a good cropper and the quality leaves nothing to be desired. Daisy, as usual, gave good results. As a standard second-early Pea of short stature, Daisy will take a lot of beating. The colour of the Peas is on the pale side, but the flavour is equal to that of darker-hued sorts. Paragon Marrowfat and New Model, sent out by Messrs. Webb, are first-class second-early Peas, both for exhibition and general use. The first named attains a height of about three feet, and the latter about a foot more. I know of no prettier Pea when growing than New Model.

Maincrop. — In this section, Gladstone, though an old variety, fully maintained its excellent reputation. I have grown this variety now for at least ten years and in several different kinds of soil, but it always does well, and its high quality is invariably maintained. It is a sure winner in the show tent, as the pods are well filled. It is one of the best sorts for very late crops. King George is a new variety that Messrs. Webb sent out last year, and of which I had a good row. It grows 5 feet high and is one of the best flavoured Peas that I have grown. It did not pod quite so freely as some other varieties, but this was more than compensated by its high quality and the fact that the pods were exceptionally well filled. Dreadnought is a new variety that Messrs. Carter made a great deal of stir about when they introduced it a year ago, and judging by its results last season, they were justified in doing so. A. B. G.

GARDENING FOR BEGINNERS.

HOW TO PROPAGATE CHRYSANTHEMUMS.

DURING the early half of January and onwards to the month of April, lovers of Chrysanthemums will be busy inserting cuttings so as to secure good batches of plants for the production of exhibition blooms, specimen plants, plants for greenhouse decoration, for the supply of cut flowers, and for outdoor borders. For every purpose, in order to be successful, the cultivator should make a good and careful beginning. He must use sound judgment in the selection of the cuttings, the pots and the compost. It is a great mistake to think that any kind of compost will do for rooting cuttings in; they retain the cutting soil around their roots throughout the whole of their growing season, and so we cannot have a compost that is too good for them.



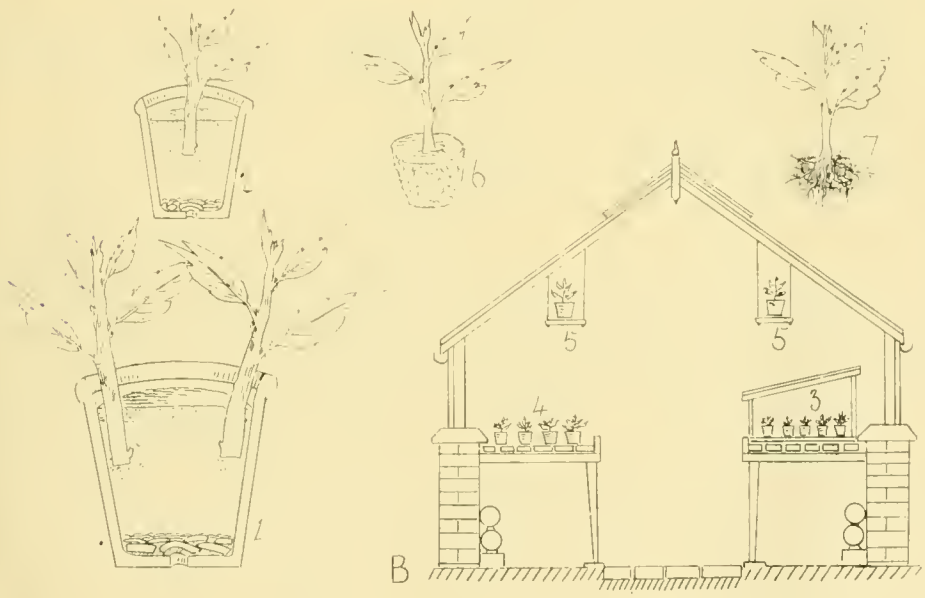
STURDY BASAL CUTTINGS AND THOROUGHLY DRAINED POTS OR BOXES ARE ESSENTIAL IN PROPAGATING CHRYSANTHEMUMS.

Selecting Cuttings.—Where there is a good selection, the best only must be put in. These are taken from the sucker shoots growing from the soil in the pots, and not from the stems of the cut-back plants. Nos. 1, 1 in Fig. A show good sucker cuttings. They must be about three and a-half inches long; if not so long at a given date it is better to wait until they grow, rather than to cut off the stems below the soil. Cuttings so severed do not form roots freely. Nos. 2, 2 show stem cuttings with buds. Only in the case of rare varieties should such cuttings be used. They invariably take a long time to grow free of bud formation, which is often persistent during the spring months. No. 3 shows a cutting free of buds but much too weakly; No. 4, a strong cutting containing a bud. This kind is sometimes found among the sucker shoots. No. 5 depicts the kind of cutting that must be relied on to produce the best plants and blooms.

Compost, Pots and Boxes.—Fibrous loam, with the finest parts passed through a small-meshed sieve, sweet leaf-soil and coarse sand should form the compost; loam two-thirds, leaf-soil one-third, and sand to make it all very porous and to induce healthy root-action. For exhibition plants cuttings should be rooted in small, deep pots singly. Others for decorative purposes and for the garden border must be rooted in larger pots, several cuttings in a pot, and in boxes. All vessels and crocks must be clean. No. 6 shows a cutting-pot crocked and the level of the surface soil. No. 7 depicts the same pot and the way in which the cutting is inserted with sand on the surface and around the base of the cutting. No. 8, the section of a box duly prepared for cuttings, and No. 9 the drainage holes in the bottom of the box. If holes are not made in the boards, the latter should have spaces between them when nailed in position.

No. 1 in Fig. B shows how cuttings are inserted round the edges of large flower-pots, and No. 2 the way they are inserted singly in small pots. A greenhouse temperature, or that of a slightly warmed frame, is most suitable for the cuttings; they ought not to be subjected to a strong bottom-heat. A small frame put on the greenhouse stage, as shown at No. 3, is an ideal place in which to propagate Chrysanthemums. There is just sufficient heat in a frame so placed, and excessive damp can be expelled. In all kinds of weather such frames may be opened a little every morning. When sufficiently rooted the young plants may be transferred to another stage, as shown at No. 4. When first repotted they should be placed on shelves not far away from the roof-glass, as shown at Nos. 5, 5. The air must be admitted from one side of the roof only at one time, so as not to cause cold draughts to blow on the newly potted plants. If subjected to cold draughts, the leaves soon flag and the growth is not satisfactory. No. 6 shows a young plant sufficiently well rooted to be repotted in a larger pot, and No. 7 depicts a plant rooted in a box, at that stage when reboxing or repotting is desirable.

It is of the utmost importance in the cultivation of Chrysanthemums to make a good beginning, and this can only be accomplished by selecting sturdy basal cuttings of the type above described. Cuttings taken from the stems of cut-back plants are rarely if ever a real success, and should only be used when basal growths are scarce. The young plants must be taken to cool frames before their stems become drawn and weakened by being subjected to a too high temperature as the longer days come. G. G.



WHEN PLANTED, THE BASE OF THE CUTTING SHOULD REST FIRMLY ON THE SOIL, AND THE POTS THEN STOOD IN GENTLE HEAT.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The New Year.—In this, the first calendar of gardening operations that I have written for THE GARDEN, I would emphasise the necessity of doing all work at the right time and as well as time and circumstances will allow. It may not happen that particular plants, vegetables or fruit are in the same condition in different gardens at any given time or date, and some may not require potting or attending to generally at the time they are mentioned, but I hope that the notes will act as useful reminders, which, after all, is their main purpose. I hope to cover the whole routine of gardening as far as space permits, though I may, perhaps, be rather inclined to dwell a little on those subjects in which I take a special interest.

Flower Garden and Pleasure Grounds.

Planting.—Having had what we may term a fairly open autumn, all odd planting operations should by now have been completed, though in the case of extensive operations this may have to go on for some considerable time. It is, however, wise to push on all planting while the weather is open, as even in the South we often get three or four weeks' frost, which stops all such work for a time, and the other kinds of ground work may be carried on during spells of frost, when it is not a good policy to be handling trees or shrubs.

Bulbs.—It often happens that the planting of various kinds of bulbs has to be deferred till alterations have been carried out in the borders of pleasure grounds and wild gardens, but no time should now be lost in getting the bulbs planted. Many of the May-flowering Tulips and other late-flowering bulbs will not have been injured by keeping them out of the ground so long, but the earlier-flowering Tulips and Narcissi will naturally suffer. All odd and small bulbs, whether newly bought in or those that have been lifted from the beds or borders during the past summer, may with advantage be planted in the wild garden or on the borders of woodland paths, and under such natural conditions they often look and do well.

Plants Under Glass.

Cleaning Operations.—After the festivities of Christmas and the New Year, which, in many instances, will have proved a drain on the plant-houses, and consequently left some of them bare, the opportunity should be taken to commence cleansing operations, as these are much more easily accomplished when a house or two can be quite cleared of plants. The cooler and consequently drier houses should be started on first, as they will keep cleaner in appearance for a greater length of time than will the stove and forcing houses, and by leaving these latter till a little nearer the spring, their cleanliness is assured during the summer months.

Forcing-House.—To keep up a supply of flowering plants and cut flowers during the spring months, a batch of bulbs and other forcing plants must be taken in each week, regulating this according to the demand.

The Kitchen Garden.

Soil Preparation.—At this season there is very little in the outside garden to be done, except in the preparation of the soil for the forthcoming crops; but this will be sufficient, as, wherever possible, all the ground should either be trenched or bastard-trenched if the very best results are to be obtained. On some soils such work can be carried out at any time, but on close, sticky soils it is well to do this in dry weather only, leaving the surface as rough as possible, thus allowing it to get the greatest benefit from the frost.

Fruits Under Glass.

Pot Vines that may have been started during December will be rapidly swelling their buds, and though a fair amount of humidity and heat should be kept up during the day, the night temperature must not be too high, nor should there be an excessive amount of moisture at night, particularly during severe frost, or the young foliage may be injured by the drip from condensation.

Early Planted-Out Vines, such as Hamburgh and Sweetwater, may now be shut up, maintaining a temperature of about 50° to 55° till the buds begin to push nicely, when the temperature can be raised from 5° to 10°. A nice light spraying overhead once or twice on all fine days will greatly facilitate their breaking, and on dull days a moistening of the paths and borders might suffice.

Late Vineries.—Any fruit that may be hanging should be cut at once and bottled, afterwards throwing the houses quite open for a few days before proceeding to prune.

First-Early Peach-Houses.—The trees in these are now being moved along gradually, and here again a certain amount of humidity is necessary to secure a nice free pushing of fruit and growth buds. Very light sprayings at this season are all that is necessary, varying the night temperature a little according to outside conditions.

Strawberries.—To secure an early crop, a batch of these should be brought in from the frames, where they should have been for some time past. The shelf of a vinery or Peach-house will prove a suitable position for them, the temperature of the freshly-shut-up houses being about right for them till the young foliage begins to push, when the temperature may be considerably increased.

The Hardy Fruit Garden.

Planting.—Any filling up in the hardy fruit garden that has not been done should be finished off at once. In cold, heavy soil too deep planting should be avoided, as it tends to unfruitfulness, especially with Pears; but in lighter soils a little mistake of this sort is not quite so noticeable. In all cases a careful spreading out of the roots and good firm planting are imperative, the latter tending to check the rampant growth which often follows the planting of young fruit trees.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sweet Peas.—We are now being inundated with catalogues in general and Sweet Pea catalogues in particular, and the work of selecting varieties for the coming season's display cannot be long delayed. The choice must be determined by the ultimate object in view. If for exhibition purposes, the selection should include several of the best up-to-date varieties; if only for general decorative purposes, while quality must be kept in view, the harmonising of colours is of prime importance.

Gladioli.—If not already attended to, the planting of Gladioli of the Colvillei type should be proceeded with if weather permits. They delight in a light, rich soil, and, not being quite hardy, they should be protected with some loose material, such as the stems of herbaceous plants which have been recently cut over, till all danger of severe frost is past. Plant about three inches deep.

Wallflowers.—These popular old favourites, although almost hardy, often suffer during spells of severe weather, especially when frosty winds prevail. Spruce twigs stuck into the ground thinly among the plants will help to break the currents and prevent damage, or at least reduce the extent of it.

The Rock Garden.

Snowdrops.—Where any of the rarer species of Snowdrops, such as Galanthus cilicicus, G. caucasicus and varieties of G. Elwesii, are planted in the lower reaches of the rockery, they will soon be showing flower, and if dirty weather is experienced it will be worth while protecting a few of them at least by placing bell-glasses or hand-lights over them to keep the blooms clean.

The Shrubbery.

Garrya elliptica.—The male plant of this evergreen shrub is highly attractive with its long catkin-like yellowish green flowers. It makes a good wall plant, but here, on the shores of the Firth of Forth, it thrives and flowers beautifully as a shrubbery plant on heavy clay. It usually comes into flower shortly after the New Year, but it has been in bloom here since the end of November.

Viburnum Tinus, better known as Laurustinus, is one of our most imposing winter-flowering shrubs. Although the fully-developed white flowers are not much in evidence till mid-winter, the bright rosy tints of the unopened flowers make a brave show from autumn onwards. The variety known as V. Tinus hirtum is more precocious than the type, flowering persistently from the beginning of November onwards.

Pruning.—Deciduous shrubs, ornamental trees, Rambler Roses and Clematises should be pruned in the absence of frost. The pruning of Dogwoods should be delayed, as winter is their chief season of beauty. Clematises of the Jackmanii type may be cut hard back, but those of the lanuginosa type should only have the dead wood removed.

Plants Under Glass.

Chrysanthemums.—The work of propagating the decoratives and singles must now be proceeded with at once. Cuttings of these are generally more plentiful than is the case with the large-flowering section. Pots 5 inches in diameter, liberally drained and filled firmly with sandy soil, finishing off with a layer of pure sand, form a suitable medium for rooting. Dibble them in more thickly than you would the exhibition varieties.

Japanese Varieties.—A greenhouse temperature is all that is wanted, and unless the house is kept rather close, they should be struck in cases covered with sheets of glass. Remove the glass for an hour daily, and invert it when replacing in position. The cuttings should begin to root in about three weeks, when the glass should be gradually tilted up to admit air.

Tuberoses.—The bulbs of these delightfully fragrant flowers are now to hand, and a portion of them should be potted up and started forthwith. Turfy loam, with some old cow-manure, leaf-mould and sand, forms an ideal compost for them. One bulb to a 5-inch pot, or three bulbs to a 6-inch pot, will be found suitable. Plunge in a bottom-heat of about 65° and give them as light a position as possible, for they are naturally tall and inclined to "draw." The Pearl is the best variety.

Fruits Under Glass.

Strawberries.—A batch may now be brought indoors for early work. Where a house is not specially provided for them, Strawberries can be successfully forced along with other fruits, always provided they are kept near the light and a suitable temperature accorded to them. At this season a shelf in an early Peach-house is an ideal position for them.

Tomatoes.—The main crop should be sown without delay. Sow thinly and regularly in well-drained pots of rather light soil, covering the pots with panes of glass till germination takes place. Place the pots in a temperature of 55° or slightly over that.

Hardy Fruits.

Pruning.—Finish up all pruning during open weather. Small fruits may be pruned during slight frosts; it is cold work, but the improved conditions under foot compensate for this.

The Kitchen Garden.

Digging.—Turn over all vacant ground so that it may get weathered before spring. Trenching or double-digging always pays for the extra labour.

Peas.—On all but very heavy soils a sowing of Peas should now be made. Gradus is highly popular, but I have a preference for William the First Improved as a first variety; it has a good constitution and is earlier than Gradus, which can follow at the end of the month. Coat the seeds with red lead.

Asparagus.—Where it is intended to make a fresh plantation, the ground should now be prepared. Deep cultivation is essential to success, 2½ feet being none too deep, and I would fix 2 feet as a minimum if good results are to be expected. Where this is not available, the depth must be made up by the addition of "travelled" soil. A free root-run is also essential, so that where the natural soil is at all heavy, sand should be incorporated with it to lighten it. Being a seaside plant, the Asparagus must have a certain amount of salt afforded to it, and in gardens contiguous to the seashore this can be given in the form of seaweed. It need hardly be added that the ground should receive a liberal allowance of organic manure.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

Supplement to THE GARDEN, January 4th, 1913.

1913.

ONE PENNY WEEKLY.

THE GARDEN

A WEEKLY ILLUSTRATED JOURNAL FOR GARDEN ORCHARD AND WOODLAND

1913.

6/6 PER ANNUM. Post Free

JANUARY.

1	W	Protect Roses with soil or ashes drawn up to stems.
2	Th	Turn leaves stored for potting soil.
3	F	Wheel manure into kitchen garden if frosty.
4	S	High Water at London Bridge 11.34 a.m.
5	S	*2nd Sunday after Christmas.* Sun r. 8h. 7m., s. 4h 3m.
6	M	R.H.S. Exam. for Emplys. in Pub. Pks. & Gardns,
7	Tu	R.H.S. Exhib. & Mtg. [10 a.m. N. M. 10.28 a m.
8	W	East Anglian Hort. Club Mtg.
9	Th	Plant cuttings of perpetual Carnations in sand.
10	F	Take cuts. of Chrysanths. as they become ready.
11	S	High Water at London Bridge 4.19 a.m. ; 4.36 p.m.
12	S	*1st Sun. after Epiphany.* Sun r. 8h. 4m., s. 4h. 13m.
13	M	Make small sowing of earliest Tomatoes.
14	Tu	Commence forcing Grape Vines for 2nd early crops.
15	W	N.E.H.S. Mtg. at Leeds. Moon 1st q. 4.2 p.m.
16	Th	Prune Apple, Pear, Plum and Cherry trees.
17	F	Prune Black and Red Currants. [needed.
18	S	Manure Raspberries, & put in new supports where
19	S	*Septuagesima Sunday.* Sun r. 7h. 58m., s. 4h. 23m.
20	M	Prune and clean Peach trees.
21	Tu	R.H.S. Exhibition & Meeting. [force.
22	W	Full Moon 3.40 p.m. Put Strawberries in house to
23	Th	Sow dwarf Beans under glass for early crops.
24	F	Plant Shrubs in open weather & dig over shrub
25	S	Sow Onions under glass for exhibition. [borders.
26	S	*Sexagesima Sunday.* Sun r. 7h. 50m., s. 4h. 36m.
27	M	Brush lawns vigorously and roll if not too wet.
28	Tu	Ventilate Violet frames freely during open weather
29	W	Moon last q. 7.34 a.m.
30	Th	Remove moss and decaying leaves from Auriculas.
31	F	Fumigate Cinerarias and other plants as necessary.

FEBRUARY.

1	S	Sow East Lothian Stocks in cool frame.
2	S	*Quinquagesima Sunday.* Sun r. 7h. 40m., s. 4h. 48m.
3	M	Sow Antirrhinums in cool frames.
4	Tu	R.H.S. Exhibition and Meeting.
5	W	New Moon 5.22 a.m.
6	Th	Sow Sweet Peas in pots or boxes in cool frame.
7	F	Sow Celery for earliest crop.
8	S	High Water at London Bridge 3.27 a.m. ; 3.42 p.m.
9	S	*1st Sunday in Lent.* Sun r. 7h. 29m., s. 5h
10	M	Sow first early Peas in warm spot outdoors.
11	Tu	R.H.S. Annual Meeting.
12	W	East Anglian Hort. Club Meeting.
13	Th	Sow Gloxinias and Streptocarpuses in warm house.
14	F	Moon 1st q. 8.34 a.m.
15	S	Sow Tuberous Begonias in warm house.
16	S	*2nd Sunday in Lent.* Sun r. 7.16 a.m., s. 5.14 p.m.
17	M	Finish planting fruit trees.
18	Tu	R.H.S. Exhibition and Meeting.
19	W	Nat. Fruit Growers' Fed. An. Mtg. at R.H.S. Hall. [N.E.H.S. An. Mtg. and Show at Leeds.
20	Th	Prune Gooseberries and plant cuttings of same.
21	F	Full Moon 2.3 a.m.
22	S	Take Cuttings of Begonia Gloire de Lorraine.
23	S	*3rd Sunday in Lent.* Sun r. 7h. 2m., s. 5h. 26m.
24	M	Attend to grass verges & recut edges where nec'y.
25	Tu	Pinch out tips of bedding Calceolarias in frames.
26	W	Divide and repot Aspidistras if required
27	Th	Moon last quarter 9.15 p.m.
28	F	Clean all rubbish from the veg. garden.

MARCH.

1	S	Clear all weeds and rubbish from rock garden.
2	S	*4th Sunday in Lent.* Sun r. 6h. 47m., s. 5h. 39m.
3	M	Sow Onions in the open.
4	Tu	R.H.S. Bulb Show (2 days).
5	W	Sow Pansies and Violas under glass.
6	Th	Plant cuttings of Lobelias & similar bedding plants.
7	F	Start old Dahlia tubers in cool house.
8	S	New Moon 0.23 a.m.
9	S	*5th Sunday in Lent.* Sun r. 6h. 31m., s. 5h. 51m.
10	M	Sow second early Peas.
11	Tu	Sow Sweet Peas outdoors for early display. Mtg.
12	W	N.E.H.S. Spring Show at Bradford. E.A. Hort. Cb.
13	Th	Sow Brussels Sprouts & Cauliflowers in cool frame
14	F	Plant early Potatoes in warm border. [6.20 p.m.
15	S	Moon 1st q. 8.58 p.m. High Water L.B., 5 58 a.m ;
16	S	*Palm Sunday.* Sun r. 6h. 15m., s. 6h. 3m.
17	M	Sow Radish, Lettuce, and Spinach outdoors.
18	Tu	R.H.S. Exhibition and Meeting.
19	W	Sow Asters and bedding Stocks in cool frame.
20	Th	Divide and replant Rhubarb where necessary.
21	F	Plant Iris Kæmpferia in damp place.
22	S	Full Moon 11.56 a.m.
23	S	*Easter Sunday.* Sun r. 6h. 0m., s. 6h. 15m.
24	M	Bank Holiday.
25	Tu	Prune Roses if weather is open.
26	W	Thin shoots of Vines as they become ready.
27	Th	Give greenhouse Calceolarias weak manure water.
28	F	Start old Hydrangeas in warm house and top dress
29	S	Moon last q. 0.58 p.m. [if necessary.
30	S	*Low Sunday.* Sun r. 5h. 44m., s. 6h. 27 m.
31	M	Cut back overgrown Ivy.

APRIL.

1	Tu	R.H.S. Meeting and Exhibition.
2	W	R.H.S. Gen. Exam. in Hort. N E.H.S. Show at
3	Th	Plant hardy Heaths. [Liverpool.
4	F	Complete the pruning of Roses.
5	S	Sow main crop of Tomatoes.
6	S	*2nd Sun. after Easter.* Sun r. 5h. 28m., s. 6h. 39m.
7	M	Sow Peas for succession. [New Moon 5.43 p.m.
8	Tu	Cornwl. Daff. & S.F. Sc. Sh. at Truro (2 d.). Dev.
9	W	R. Cale. H.S. Spring Sh. (2) [Daff Sc. Sh. Barnsp (2)
10	Th	Perpetual Carnation Society's Sh. at Leamington.
11	F	Plant Gladioli and rock plants from pots.
12	S	High Water at London Bridge 5.1 a.m. ; 5.21 p.m.
13	S	*3rd Sunday after Easter.* Sun r. 5h. 13m., s. 6h. 50m.
14	M	United Hort. Ben. & Prov. Sc. A.G.M. Moon 1st q.
15	Tu	R.H.S. Daffodil Show (2 days). 5.30 a m.
16	W	R.H.S. Primula Conference. [Spring Show.
17	Th	Ips. & E. of Eng. Spring Sh ; Huntdg Daff and
18	F	Plant Hollies, Yews & other evergreens.
19	S	Plant main crop Potatoes.
20	S	*4th Sunday after Easter.* Sun. r. 4h. 57m., s. 7h. 2m.
21	M	Clean & manure Strawb'ry bds. [F. Moon 9 33 p m.
22	Tu	Lincs. Daff. Society Show.
23	W	R.H.S School Teachers' Exam. N.E.H S. Spring Show at Leeds. Mid. Daff. Sc. Ex. at Bir. (2 dys)
24	Th	Pot in Chrys. as they become ready.
25	F	Sow hardy annual flowers outdoors. [(prov.)
26	S	Nat. Aur. & Prim. Soc. (N. Sec.) Sh at Manchstr.
27	S	*Rogation Sunday.* Sun r. 4h. 43m., s. 7h. 14m
28	M	Moon last qr. 6.9 a m. [Southern Section)
29	Tu	R.H S. Mtg. & Nat. Auricula & Primula Show
30	W	Nat. Auricula Soc. (Mid. Sec.) Sh. at Birm. (2 days)

MAY.

1	Th	N.R.S. Spring Show at R.H.S. Hall.
2	F	Sow Cineraria Seed for main display.
3	S	Sow dwarf annuals in rock garden.
4	S	*Sunday after Ascension.* Sun r. 4h. 30m., s. 7h. 25m.
5	M	Divide and replant Violets
6	Tu	New Moon 8.24 a.m.
7	W	Sow Vegetable Marrows for outdoor cultivation
8	Th	Thin and weed Onions.
9	F	High water at London Bridge, 3.31 a.m. ; 3.50 p.m.
10	S	B.G.A. Meeting at Birmingham.
11	S	*Whit Sunday.* Sun r. 4h. 18m., s. 7h. 36m.
12	M	Bank Holiday. B.G.A. An. Gen. Mtg. at Bir'ham.
13	Tu	Moon, 1st q., 11.45 a.m.
14	W	R.H.S. Mtg. & Tulip Show. East Anglian Hort.
15	Th	Sow Scarlet Runners & French Beans [Club Mtg.
16	F	Search for and destroy Rose maggots.
17	S	Remove fading flower stems from & repot Auriculas
18	S	*Trinity Sunday.* Sun r. 4h. 8m., s. 7h. 46m.
19	M	Get Window-boxes ready for summer plants.
20	Tu	R.H S. Spring Fl. Show at Chelsea (3 days Full M.
21	W	National Tulip Show at Chelsea (2 days) [7.18 a.m.
22	Th	Place straw or litter between Strawberry plants
23	F	Cut back Rosemary where necessary.
24	S	Thin flower buds on Malmaison Carnations
25	S	*1st Sun. after Trinity.* Sun r. 3h. 58m., s. 7h. 56m.
26	M	Plant out Asters and Stocks.
27	Tu	Rhod. Sh., R.H.S. Hall (3 days) ; Bath & West & S.
28	W	Moon last q., 0.4 a.m. [Coun. Sh. at Truro (5 days)
29	Th	Plant out the earliest Celery.
30	F	Syringe Roses with sulphide of potas. for mildew.
31	S	Give Chrysanthemums their final potting.

JUNE.

1	S	*2nd Sun. after Trinity.* Sun r. 3h. 51m., s. 8h. 5m.
2	M	Thin and train Sweet Pea shoots.
3	Tu	R.H.S. Meeting and Exhibition.
4	W	New Moon 7.57 p.m.
5	Th	Disbud Roses for large exhibition blooms.
6	F	Earth up Potatoes and stake Peas.
7	S	Plant out Dahlias and other bedding plants.
8	S	*3rd Sun. after Trinity.* Sun r. 3h. 47m., s. 8h. 12m.
9	M	Protect ripening fruit with nets
10	Tu	Plant out Arum Lilies.
11	W	Birh'm. Bot. & Hor. Soc. Orchid Sh. (Prov.); E. Anglian Hor. Club Mtg. Moon, 1st q., 4 37 p.m.
12	Th	Thin Grape Berries as necessary.
13	F	Give perpetual Carnations their final potting.
14	S	High water at London Bridge 9.43 a.m., 10.15 p.m.
15	S	*4th Sun. after Trinity.* Sun r. 3h. 44m., s. 8h. 15m.
16	M	Propagate Pinks by cuttings. [R.H.S. Sh.
17	Tu	R.H.S. Mtg. and Gladiolus Show. Oxfordshire
18	W	York Gala (3 days), Roy. Jersey H.S. Sh. (2 days).
19	Th	Sow Parsley for use next winter. [F. Moon 5.54 a.m
20	F	Make the last sowing of Peas.
21	S	Give young Cyclamen their final potting.
22	S	*5th Sunday after Trinity.* Sun r. 3h. 44m., s. 8h. 19m.
23	M	Destroy American blight on Apple trees.
24	Tu	[Colchester Rose Show.
25	W	Croydon Rose & Fl. Sh. : Harrow H.S. Ann'l. Sh.
26	Th	I. of W. Rose Sh. at Newport (prov.) Moon last Q.
27	F	Remove side shoots from Tomatoes. [5.41 p.m.
28	S	Windsor Rose Show.
29	S	*6th Sunday after Trinity.* Sun r. 3h. 47m., s. 8h. 19m.
30	M	Commence summer pruning fruit trees.

JULY.

1	Tu	R.H.S. Summer Show at Holland House (3 days). Sutton Rose Show. Epsom Rose Show.
2	W	Hanley H. Fete (2 d.), Pen. Rose Sh., King's Lynn
3	Th	Show at Ipswich. [Rose Sh., Gosport & Alvers. Sh.
4	F	N.R.S. at Regent's Park. New moon, 5.6 a.m.
5	S	Thornton Heath Rose and S.P. Show.
6	S	*7th Sun. after Trin.* Sun r. 3h. 52m., s. 8h. 16m.
7	M	[at Paisley (4 days), Southampton (2 days).
8	Tu	Wolverhampton (3 days), Scot. R. Arb. Soc. Ex.
9	W	Saltaire Sh., Bath Fl. Fete (2 d.), E. Ang. Hor. Cl. [Mtg., Sh. Beck'm., Elstree, Dover, Formby.
10	Th	Shs at Newmk't., Malvern, Finchley, Snaith, W. of
11	F	[Scot. Rosarians Soc. Sh. at Helensburgh.
12	S	Shows at Wood Green, Trowbridge, Steeton.
13	S	*8th Sun after Trin.* Sun r. 3h. 59m., s. 8h. 12m.
14	M	Pot Strawberry runners if ready.
15	Tu	R.H.S. Ex., N.R S. Sh. Glouc r. [Ux , Bish. Walth.
16	W	Bir. Bot. & H.S. Rose Sh. (Prov), Sh. at Caterham,
17	Th	N.S.P.S. Show, Dunfermline Rose Show (2 days).
18	F	N. Car. & Picotee Sh. at R.H.S. Hall, N. Lonsdale
19	S	[Rose Show.
20	S	*9th Sun. after Trin.* Sun r. 4h. 7m., s. 8h. 4m.
21	M	Thin Raspberry Canes after fruit is gathered.
22	Tu	Transplant Celery.
23	W	Shows at Sevenoaks, Cardiff & Co. H S. (2 days).
24	Th	Exning H.S. Show. Roehampton Flower Show.
25	F	Cheadle & Cheadle Heath Show (2 days).
26	S	Fife & Kinross Show. Moon last q., 9.50 a m.
27	S	*10th Sun. after Trin.* Sun r. 4h. 17m., s. 7h. 56m.
28	M	Summer prune fruit trees.
29	Tu	R.H.S. Meeting and Gladiolus Show.
30	W	Kemsing Fl. Sh (prov.), Sh. Chest'ld., Whitchurch

AUGUST.

1	F	Sow seeds of Herbs.
2	S	Make Mushroom Beds. New Moon 4 3 a.m.
3	S	*11th Sun. after Trin.* Sun r. 4h. 27m., s. 7h. 45m.
4	M	Shs. at Bletchley, Atherstone, Epsom, Thornton Hth., Eye, Lichfield, Ashby-de-la-Zouch, Marlow, Sandway, Stourport (2 days). Mansfield, Datchet,
5	Tu	Shs. at Leicester (2 days). Navan. [King's Lynn.
6	W	Show at Cookhill.
7	Th	Show at Madresfield.
8	F	Darwen H.S. Show (2 days).
9	S	N. Car. & Picotee Soc. (N.Sec.) Sh. Sh. at Winshill
10	S	*12th Sun. after Trin.* Sun r. 4h. 38m., s. 7h. 32m.
11	M	Lift early potatoes.
12	Tu	R.H.S Ex. shs at Clay Cross. [Clb Mtg Capel
13	W	N.E H.S. Sh at Carlsle. Shs at Exmth. E. Ang. Hr.
14	Th	Shows at Taunton, Merthyr Tydvil & Abingdon.
15	F	Sow Tripoli Onions.
16	S	Shows at Ambergate, Seascale and Lake District.
17	S	*13th Sun. after Trin.* Sun r. 4h. 49m., s. 7h. 19m.
18	M	Shows at Warkworth.
19	Tu	Sow yellow Turnips
20	W	Shs. at Shrewsbury (2 dys.) Banffshire H.S. West
21	Th	Shs. at Aberdn (3 d.) Cmbrlnd H.S. Ryl. Jersey H.S.
22	F	Highland H S. Show.
23	S	Shows at Burnley.
24	S	*14th Sun. after Trin.* Sun r. 5h. 0m., s. 7h. 4m
25	M	Moon last qr 0.18 a.m.
26	Tu	R.H S. Exhibition Meeting.
27	W	Purchase early forcing bulbs.
28	Th	Shows at Dundee (3 days), Sandy.
29	F	Shows at Dunfrlne, Falkirk, Lymgtn. [Pentcnik.
30	S	Shows at Hawick (2) E Tipton Melrose Cumnor

THE LEADING WEEKLY JOURNAL FOR GARDEN, ORCHARD AND WOODLAND

HERBACEOUS BORDER AT ABBOTSWOOD, GLOUCESTERSHIRE.

REPORTS OF THE LEADING SHOWS

COLOURED PLATES

NEW PLANTS DESCRIBED

SEPTEMBER.

1	M	Make and sow new lawns.
2	Tu	Flower Show at Bicester [(3 days)
3	W	Flower Shows at Kelso (prov.), Alnwick, Preston
4	Th	Flower Shows at Peterborough, Kilkenny.
5	F	Earth up Celery.
6	S	Flower Shows at Mancbline, Kirkby Stephen.
7	S	*16th Sun. after Trin.* Sun r. 5h. 22m., s. 6h. 34m.
8	M	[Moon 1st quarter 1.6 p.m.
9	Tu	R.H.S. Mtg. & Ex., R. Caledonian H.S. Sh. (2 d.).
10	W	East Anglian Hort. Club. Meeting.
11	Th	N.R.S. Autumn Sh. at R.H.S. Hall (2 days).
12	F	Continue to sow Lettuce.
13	S	Flower Show at Galashiels. [Full Moon, 0.46 p.m.
14	S	*17th Sun. after Trin.* Sun r. 5h. 35m., s. 6h. 14m.
15	M	Lift Onions—Harvest Fruit.
16	Tu	Plant box edgings.
17	W	Plant Winter Greens.
18	Th	Dig up mid-season Potatoes and clamp or store.
19	F	Pot Roman Hyacinths for Christmas.
20	S	High water at London Bridge 4.19 a.m.; 4.33 p.m.
21	S	*18th Sun. after Trin.* Sun r. 5h. 45m., s. 6h. 0m.
22	M	Stack peat and loam. [0.30 p.m.
23	Tu	R.H.S. Mtg. and Vegetable Show. Moon last q.
24	W	N.E.H.S. Show at Kendal (2 days).
25	Th	R.H.S. Show of British grown Fruits (2 days).
26	F	Propagate bedding plants.
27	S	Cut away excess of growth in Tomatoes.
28	S	*19th Sun. after Trin.* Sun r. 5h. 56m., s. 5h. 45m.
29	M	Pot Plants for winter blooming in conservatory.
30	Tu	New Moon, 4.57 a.m.

OCTOBER.

1	W	N.C.S. Sh. at Crystal Palace (2 days).
2	Th	Lift Carrots & Beet and store in sand in shed.
3	F	Plant Endive in cold frames.
4	S	Take up late potatoes.
5	S	*20th Sun. after Trin.* Sun r. 6h. 1m., s. 5h. 30m.
6	M	Cut down withering Asparagus growth.
7	Tu	R.H.S. Mtg & Exhib. Moon. 1st q., 1.46 a.m.
8	W	East Anglian Horticultural Club Meeting.
9	Th	Lift Rhubarb, Seakale, Asparagus for early forcing
10	F	
11	S	High Water at London Bridge 11.49 a.m.
12	S	*21st Sun. after Trin.* Sun r. 6h. 20m., s. 5h. 14m.
13	M	Re-sow bare patches in lawn.
14	Tu	Lift Dahlias, Begonias and Cannas.
15	W	Full Moon, 6.7 a.m.
16	Th	Royal Jersey Fruit Sh., N.E.H.S. Show at Leeds.
17	F	Pot up Arum Lilies. [(2 days)
18	S	Transfer early Strawberries to frames.
19	S	*22nd Sun. after Trin.* Sun r. 6h. 31m., s. 5h. 0m.
20	M	Take Cinerarias into greenhouse.
21	Tu	R.H.S Exhibition and Meeting.
22	W	Hereford Fruit & Chrys. Sh. (2 days). Moon last
23	Th	Keep seeding Primulas near glass. [q., 10.53 p.m.
24	F	Plant Shrubs, R ses and Trees as soon as weather
25	S	[is permissible.
26	S	*23rd Sun. after Trin.* Sun r. 6h. 42m., s. 4h. 44m.
27	M	Continue to pot bu bs such as Hyacinths, Tulips,
28	Tu	[Crocus and Narcissus.
29	W	Kent County Chrys. Sh. (2 d.). New Moon 2.29 p.m.
30	Th	Plant Fruit Trees if ready.
31	F	Lift bedding plants.

NOVEMBER.

1	S	Arrange ground for next year's cropping.
2	S	*24th Sun. after Trin.* Sun r. 6h. 56m., s. 4h. 31m.
3	M	
4	Tu	R.H.S. Ex. & Mtg. Shows at Southampton (2 d.)
5	W	N.C.S. Sh. at C. Pal. (3). Shs. at Stoke Newington, Undercliffe, Guildford, Barry, Northhampton, Bideford, Tottenham (2 d.). [Mon., Bury.
6	Th	Devon & Ex. S. (2). Weston-super Mare, Newport
7	F	Shs. Corn Ex. Lon., Hinckley, Eccles, Kircaldy (2).
8	S	Shows at Loughborough, Wood Green, Formby.
9	S	*25th Sun. after Trin.* Sun r. 7h. 8m., s. 4h. 19m.
10	M	
11	Tu	Shs. Belf't (2), Bir'ham(3). [Faversham, Dulwich(2)
12	W	E. Ang. Hort. Club Mtg. Shs. Buxton, Gai sboro',
13	Th	Shows at Nottingham, Sheffield, Scot. H.A. (3 d.).
14	F	Shows at Leeds, Rochdale (2 d.), Huddersfield (2 d.
15	S	Shows at Burton-on-Trent, Batley.
16	S	*26th Sun. after Trin.* Sun r. 7h. 19m., 4h. 9m.
17	M	Manure, dig, and trench vacant spaces.
18	Tu	R.H.S. Exhib. and Mtg. Shows at Wokingham.
19	W	N.E.H.S. Chrys. Sh. at Newcastle (2). Jubilee Sh
20	Th	Show at Barnsley (2 days). [at Bristol (2).
21	F	Chrys. Shs. Dundee, Blackburn, Bolton, Dunferm-
22	S	[line, Stockport (2 days)
23	S	*27th Sun. after Trin.* Sun r. 7h. 32m., s. 4h. 0m.
24	M	Plant Roses and fruit trees.
25	Tu	Divide and remake herbaceous borders
26	W	Lift latest Potatoes.
27	Th	Make Asparagus beds for spring planting.
28	F	Shows at Hawick (2 days). New Moon 1.41 a.m.
29	S	High Water at London Bridge 2.11 a.m.; 2.33 p.m.
30	S	*1st Sun. in Advent.* Sun r. 7h. 42m., s. 3h. 54m.

DECEMBER.

1	M	Plant Vines.
2	Tu	R.H.S. Mtg. and Car. Show.
3	W	Perpetual Flg. Car. Soc. Show at R.H.S. Hall.
4	Th	Make new flower beds.
5	F	Moon, 1st q., 2.59 p.m.
6	S	Re-lay turf.
7	S	*2nd Sun. in Advent.* Sun r. 7h. 52m., s. 3h. 50m.
8	M	Make out seed order. Sow Peas and Beans under
9	Tu	[glass if wanted early.
10	W	East Ang. Hort. Cl. Mtg., N.E.H.S. Sh. at Leeds.
11	Th	Re-gravel walks, plant ivy, also briars for budding
12	F	next Summer. [1.24 a.m., 1.45 p.m.
13	S	Full Moon, 3.0 p.m. High Water at Lon. Bridge,
14	S	*3rd Sun. in Advent.* Sun r. 8h. 0m., s. 3h. 49m.
15	M	Plant thin hedges and fill up gaps.
16	Tu	Lime wash fruit trees if moss grown.
17	W	Burn all rubbish, Cabbage stems, prunings, &c
18	Th	Spray fruit trees with caustic alkali wash.
19	F	Make new labels and stakes on wet days.
20	S	Moon last q., 4.16 p.m.
21	S	*4th Sun. in Advent.* Sun. r. 8h. 5m., s. 3h. 50m
22	M	Manure, dig and trench ground.
23	Tu	Make up hot-beds
24	W	Sprinkle soot or lime on ground to be dug
25	Th	*Christmas Day.*
26	F	Bank Holiday.
27	S	New Moon 2.50 p.m.
28	S	*1st Sun. after Christmas.* Sun r. 8h. 8m., s. 3h. 55m.
29	M	Give Standard Apple Trees a surface dre-sing of
30	Tu	[Farmyard manure.
31	W	Take Chrysanthemum cuttings when ready

OFFICES: 20, TAVISTOCK STREET, COVENT GARDEN, LONDON.

TREES AND SHRUBS.

THE BEST SHRUBS FOR LOW WALLS.

THE existence of low walls, such as those retaining terraces or surrounding some portion of the pleasure grounds, are, in my opinion, one of the most interesting features of any garden, as growing on such may usually be found some shrubs that are not generally considered hardy in the neighbourhood, but when given the protection of a low wall, and particularly when facing south or south-west, often grow luxuriantly and make good specimens. One reason in particular is responsible for this, I think, viz., that the footings of such a wall help to drain the soil. On heavy soils wet is responsible for more failures than actual frost. The locality, again, plays an important part in what can be grown, and it is surprising how in one garden a plant thrives, and in the adjoining one the greatest difficulty is experienced in keeping it alive.

Apart from all these indifferences, however, there are a host of shrubs, comprising evergreen, deciduous and flowering subjects, which may be relied upon to grow without coddling; and though many are not climbers in the true sense of the word, yet they are easily secured to a low wall with little trouble and without losing their character. Lack of space will not permit of my dealing with the various subjects at any length; I will, however, deal with them alphabetically, and those included are generally acknowledged to be hardy unless otherwise stated.

Abelia chinensis.—A good subject for a low wall; a deciduous shrub with attractive foliage and pretty pink flowers. Of neat and busby habit, and though not quite hardy is, nevertheless, well adapted for such a position.

Actinidia chinensis.—A true climber, of fairly recent introduction, and quite hardy here at Aldenham trained to poles without the least protection. If the growths are trained horizontally, this is a fine deciduous subject. The young growths are particularly attractive, and will easily cover a large area if so desired.

Aloysia (Lippia) citriodora.—This, in favoured localities, is well worth a position on a wall, giving shelter from hard frosts during the winter. It is too well known as the Scented Verbena for any further description.

Ampelopsis.—Several varieties of this genus are indispensable for such a site, especially the smaller-leaved varieties. A. Lowii is one of comparatively recent introduction, and especially suited for a low wall. It is of deciduous growth, self-supporting and turns a grand colour in the autumn. A. sempervivens is an evergreen of dense habit with green foliage, and is particularly suited for low walls, being of slow growth compared with many of the other creepers belonging to this genus. Requires protection. A. Veitchii is one of the most attractive and colours well, though, of course, it is also suitable for a much larger area than a low wall.

Azara microphylla.—A Chilian shrub, but without doubt perfectly hardy in our ordinary winters, even without the protection of a wall. It is evergreen, with shining, neat foliage, and the flowers, though minute, are produced thickly in the spring, and emit a pleasing aroma easily detected when one is near. Suitable for any aspect except north.

Berberis Darwinii.—This well-known Barberry is a good evergreen subject for planting in a cold aspect. The foliage is at all times attractive, and the beauty of the plant is further enhanced in spring when in flower.

Berberis stenophylla, though somewhat spoilt in its graceful habit when planted against a wall, may be similarly employed.

Berberis Fremontii is a charming species hailing from the Southern United States, and is generally found either on a wall or planted as a bush on the rockery. It is of comparatively slow growth, and likes a warm position. Several others of this family might be similarly tried, with, I should imagine, good effect.

Berchemia racemosa variegata.—This plant is most attractive, and might be taken for anything but a hardy climber, so delicately marked and variegated are its ovate leaves. A plant here makes good growth each season. Likes a warm position.

Bridgesia spicata syn. Ercilla.—A tightly-clinging evergreen climber, perfectly hardy here on an east aspect, and one that ought to be more commonly employed for clothing low walls and on houses.

Carpenteria californica.—A most beautiful evergreen with flowers resembling Anemone japonica alba, but needs a sheltered position in a district not too cold.

Ceanothus.—Several of these are well suited for culture on walls, but the palm must be given to Gloire de Versailles, a beautiful variety, very persistent in flowering.

Choisya ternata.—One that must not be forgotten. A beautiful evergreen commonly known as the Mexican Orange Flower. Further description is unnecessary.

Colletia cruciata, commonly known as the Anchor Plant on account of its curiously shaped, flattened branches, is none too hardy unless given the protection of a wall. It is of slow growth, and particularly attractive when in bloom, the white flowers being produced from old and new wood alike.

Corokea Cotoneaster.—This quaint shrub might be included on a wall, and especially in cold localities, though we find it hardy here in the open. Nevertheless, it is an intensely interesting subject, and well worth a position among choice wall shrubs.

Cotoneasters.—Among these are some of the best subjects imaginable for low walls, being of close growth, and particularly ornamental when in fruit. C. adpressa, C. congesta, C. horizontalis and C. microphylla are well worth recommending.

Cratægus Pyracantha.—Fine in autumn and winter when freely berried, but if allowed to go will cover a great space in time, though not a rapid grower. It bears cutting back with impunity.

Crinodendron Hookeri.—An evergreen from Chili, and unless in very favoured spots is best placed at the foot of a wall. It has drooping scarlet flowers, freely produced on the smallest plants, and is one of our choicest shrubs.

Cydonias.—The various species and varieties of Japanese Quinces, which produce flowers of varying colours in early spring. C. japonica, C. nivalis and C. Maulei are all excellent.

Elæagnus.—Among these we have several varieties with variegated evergreen foliage, which renders them most attractive at all seasons.

Escallonias include E. philippiana (white-flowered), E. macrantha (crimson) and the hybrid E. langleyensis (bright rose). They are some of the best and most beautiful of our evergreen climbers, or, I should say, wall shrubs.

Euonymus radicans Silver Gem is one of our most accommodating wall plants. Beautiful at all seasons, and will thrive almost anywhere.

Fabiana imbricata.—This evergreen shrub much resembles a Heath, and, though not hardy, is worth trying against a sheltered wall. Flowers highly attractive during summer.

Forsythia.—F. suspensa and F. viridissima, though generally found as bush shrubs, do remarkably well on a wall, and are wonderfully attractive in spring with their golden yellow flowers.

Garrya elliptica.—Interesting at all seasons, also when in flower and fruit. Being diœcious, both sexes should be planted.

Hederas, or Ivies.—The smaller-leaved varieties, such as H. argentea variegata, H. aurea spectabilis, H. caenwoodiana, H. minima purpurea and H. maderiensis variegata are all useful.

Hydrangea scandens, or H. petiolaris, has large, flat corymbs of white flowers, and H. quercifolia is another species, from the States, with attractive Oak-leaved foliage in addition.

Jasminums, both J. nudiflorum and J. officinale, the white-flowered, may be used, also J. revoluta.

Lardizabala biternata.—This evergreen stands well with us, and is worth a position for its large evergreen foliage.

Lonicera japonica aureo-reticulata (with variegated foliage veined with gold), L. fragrantissima (very early flowering, deliciously fragrant) and L. sempervirens (with scarlet flowers) are three to be thoroughly recommended, the latter being none too hardy, but worth a little care.

Muehlenbeckia complexa.—For a low wall this shrub might be used, though we grow it on the rock garden; but wherever it may be apportioned is a very interesting subject.

Myrtles.—One or two of these are general favourites on a sheltered position, especially M. Ugni.

Raphiolepis japonica.—A choice evergreen with sweetly-scented clusters of pure white flowers.

Veronica hulkeana.—A glorious plant where it does well. Likes a south or south-west wall, and must have adequate protection during the winter.

The foregoing list is by no means exhaustive, as I have purposely refrained from mentioning many because of their undoubted hardiness, and also because their freedom of growth certainly suggests that they require more space in which to display their beauty and true character.

Aldenham House Gardens, Elstree. E. BECKETT.

NURSERY NOTES.

ANNUALS AT MESSRS. CARTER'S TRIAL GROUNDS, RAYNES PARK.

FOR some time now the extensive establishment of Messrs. James Carter and Co., so long identified with High Holborn, has arrested the attention of travellers on the South Western Line, near Raynes Park Station. The huge and imposing building, with its vast labour-saving machinery (despite which, however, quite an army of workpeople find accommodation therein), has been before now exhaustively dealt with, though even to this additions are continually being made.

Surrounding the building on three sides are the extensive trial grounds, of which their twenty acres or so are about equally divided between flowers

and vegetables. These grounds being as they purport to be for trial purposes, one does not meet with huge stretches of any particular kind, but rather to the proving of Messrs. Carter's numerous specialities or the testing of any stocks that may be submitted to them. Some of these last will need a certain amount of rogueing before they are up to the "Holborn" standard, but with regard to the firm's specialities one cannot fail to be struck with the uniform nature of the plants in the different rows and the high class of the flowers themselves. At the time of our visit in early September some of the annuals were past their best, among them being the Sweet Peas, Stocks and the different forms of Candytuft. Of this last, however, there still remained sufficient to show the great superiority of the Hyacinth-flowered forms over the old-fashioned type. The massive heads and brilliant colour of Rose Cardinal appeal to everyone.

Nemesias were also much in evidence, Carter's large-flowered strain at once arresting attention by reason of the size of the individual blooms as well as by their richness of colouring and the fact that many of them possess quite distinct tiger-like markings. The pretty little Forget-me-not-like variety, Blue Gem, though quite a miniature compared with some of the others, is very generally admired.

Second to none in its gorgeous mass of colour was a bed of a distinct variety of the common Marigold, namely, Cocade Orange, the large double flowers, about four inches in diameter, being of a rich deep orange and borne in the greatest profusion. The distinct Meteor, lemon, striped with orange, was also in fine condition. From the ordinary kind being so common, many people have a prejudice against the Marigold as a decorative subject for the flower garden; but the sight of a batch of Cocade Orange would probably lead to an altered opinion. The French Marigolds, too, are very fine, and show a wide range in colour and in marking.

Vying with the Marigold in brightness of colouring stand out the several varieties of Eschscholtzia, to the improvement of which Messrs. Carter have of late years devoted a good deal of attention. The result of their labours are to be seen in the richly-coloured Carmine King and The Mikado, while the blush-tinted Dainty Queen is a decided break away.

Blue flowers are admired by many, and this colour is freely represented in innumerable shades, prominent among them being Delphiniums of sorts, the Nigellas, especially that charming variety Miss Jekyll; the daintily-tinted Nemophilas, the tiny Ionopsidium acaule and the varied forms of Lobelia speciosa. While these last have for the most part flowers of some shade of blue, two striking departures therefrom are White Queen and Prima Donna, this last being the finest rich red variety that has ever come under our notice.

Nasturtiums, too, were a blaze of colour, the dwarf varieties especially. A notable feature of them is the wide range in colour that now exists, and also how true the different forms come from seed. For hot, dry soils especially the merits of these for the summer embellishment of the flower garden might be considered more than they are now. It is interesting to note that the dwarf Nasturtiums were first introduced by Messrs. Carter and Co.

The old-fashioned race of Cosmos, with its blossoms like single Dahlias, used to flower too late in the season for them to be of any great service, but there is now an earlier-flowering race of great value. Messrs. Carter have the old and the new type planted side by side, one being full of flower while the other has not yet any blooms expanded.

Mignonette is largely grown, and in a mass the different tones of colour in the white, golden and red kinds are far more striking than when only considered in single spikes. Of these varieties White Queen, Golden Queen and Red King are very noticeable. One of the showiest beds was planted with Mallow Pink, Domino and White Lady, the former having large, rose-coloured blossoms, and the other pure white, both with a pleasing silky texture.

Verbenas are largely raised from seeds, and so thoroughly are they selected that they come remarkably true when increased in this way.

It is impossible to deal individually with the many subjects represented, but there were fine examples of Alyssum, Antirrhinum, Asters, Coreopsis, Centaurea, Chrysanthemum (annual), Clarkias, Dianthus, everlastings of sorts, Godetia, Larkspur, Lavatera, Linaria, Linum, Pansies, Petunia, Phlox Drummondii, Salpiglossis, Scabious, Viscaria, Zinnia and others.

While the foregoing include what may be regarded as the more generally-grown annuals, there are a few that arrest attention by reason of their attractiveness and the fact that they are very seldom seen. Among them are Abronia umbellata, a trailer with clusters of pretty pink blossoms; Argemone grandiflora, pure white Poppy-like flowers; Arctotis grandis, Marguerite-like, white and purple; Dimorphotheca aurantiaca, orange apricot, better than the newer hybrid kinds; Eutoca viscida, bell-shaped flowers, rich blue; Kaulfussia amelloides, bright blue; Phacelia campanularia, whose thimble-like blossoms are of a delightful shade of gentian blue; Platystemon californicus, soft yellow; and Thunbergia alata, orange, dark throat.

A FEW PERFECT ROSES.

WHEN is a Rose perfect? When it has scent, good formation, colour and size. A friend of mine wants a selection of perfect Roses. She wants to go into her garden and cut Roses she will be proud to own; Roses that will make their presence felt in any room they adorn. She will not waste energy on varieties that will not give thanks in fragrant or shapely blooms, and I think readers will be interested in the list I have given her.

Arthur R. Goodwin.—This has blooms of various size, some really large, poised on sturdy stems amid thick, green, leathery foliage, showing up the coppery orange blooms, the centre radiating a deeper glow that spreads over the whole bloom. It is very sweetly scented and the plant has a spreading habit of growth.

Mme. Melanie Soupert.—This superb Rose once seen is never forgotten. It is not very full, but a large, deep-petalled bloom, yellowy cream, with a fusion of pale pink over the whole, sometimes more intense than at others, the edge of the petals taking on a faint carmine, especially when grown as a standard. Can be cut with very long stems.

Marquise de Sinety.—Recently classed with "Roses with Bad Habits" because of its poor colour. This quite puzzled me, as my blooms are always very deep golden yellow, with a Roman ochre centre, and some of the deeper blooms give one the idea of a sun having set in the middle of the flower. I admit it is not a good shape, but if the blooms are cut young and the outer petals nicely arranged it is splendid.

Mrs. Aaron Ward.—In this we have one of those useful all-round Roses; a delightful bud opening a very deep apricot, specially free-blooming, with bronze foliage, and few have any idea how good it comes under glass until they have grown it in their own Rose-house.

Sunburst.—An orange yellow Hybrid Tea, very free-blooming; long, exquisitely-shaped blooms, with delicious scent; useful for any purpose and absolutely superb under glass.

Miss Alice de Rothschild.—A pale yellow, large, perfectly-formed, high-centred Tea, always in bloom and one of the best we have.

Alexander Hill Gray is the largest Tea, a well-formed yellow, being particularly fresh in colour during the dull weather. Ideal for any purpose.

Mrs. Foley Hobbs is one of the high-flowered type of Teas; ivory white, with a very faint pink that is hardly noticeable on the edge of the petals. One of the "great" Roses.

Lady Greenall.—A long-petalled Hybrid Tea, each petal perfectly arranged from a high centre. One of the best of the newer Roses. Colour, creamy saffron yellow.

Herzogin Maria Antoinette.—An intense real orange Tea with a crimson splash on the outer petals; medium sized, sweetly scented, growth of spreading habit, and never out of bloom all through the season.

Mrs. Fred Straker.—A long-pointed bud; colour, a blend of silvery fawn and faint orange; very charming.

Mrs. Theodore Roosevelt. — Large creamy white, shaded with rose pink. One of those solid, reliable blooms, opening well.

Souvenir de Maria de Zayas.—This has every petal artistically arranged from a high-pointed centre, very prettily formed, growing on long, stiff stems; a pleasing shade of crushed strawberry; sweetly scented.

Other varieties are Mme. Abel Chatenay, Elizabeth Barnes, Mme. Segond Weber, Mrs. Herbert Hawksworth, Mrs. Herbert Stevens, Entente Cordiale, Irish Beauty, British Queen, The Lyon Rose and Irish Elegance.

Now we come to shades of red. Hugh Dickson and J. B. Clark must both be grown as tall pillars, They are never so happy as when they are allowed to roam at will, and they give some splendid blooms, the latter without the split centre. Climbing Richmond and the famous George Dickson, with Red Letter Day, must have a place, as well as King George V., M. Jules Gravereaux, Florence Haswell Veitch and the charming Mrs. Edward Powell.

To complete our garden we must have arches, pergolas, banks and hedges of Roses, for which I suggested the following: Una will give yards of creamy white, semi-double blooms, very useful for cutting; Mrs. O. G. Orpen and Dawn, two pink singles, the latter blooming all through the season; Dorothy Perkins, White Dorothy, Dorothy Dennison, Excelsa, Jersey Beauty, Shower of Gold, Paul's Sylvia, American Pillar, Miss Hellyett (one of the largest of the wichuraianas), Carmine Pillar and Flower of Fairfield. Juliet and Beauté de Lyon, of the famous pernetiana section, complete my list.

E. E. F.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Lily Bulbs from Japan.—As an indication of the vast quantities of Lily bulbs that are annually imported to this country from Japan, we may mention that one ship which arrived in London last week from Yokohama brought over no fewer than 4,000 cases.

Sir Frank Crisp.—Among the list of New Year Honours we were pleased to see that a baronetage had been conferred upon Sir Frank Crisp. His famous rock garden at Friar Park, Henley-on-Thames, is known to lovers of alpine plants in all parts of the world, and in our issue for October 26, 1912, we presented a coloured plate of a portion of it. Sir Frank is president of the Horticultural Club and takes an active interest in its work.

Oak-Leaved Primulas.—Quite a distinct break in the Chinese Primulas from any others in commerce are those possessing leaves almost identical with those of the Oak-leaved Geranium. In many instances the flowers, although set rather low, are beautifully double, and they are invariably produced in great profusion. A variety with clear salmon-shaded flowers is most pleasing, particularly early in the year, when even greenhouse flowers are none too plentiful.

Rambler Roses over Rustic Poles.—A few days ago we saw an effective method of growing some of the stronger-growing Rambler Roses, such as American Pillar. Some rough, slightly-branched poles about nine feet high had been firmly thrust into a circular lawn bed, wigwam fashion, and around and outside these the Roses had been planted, the growth nearly hiding the supports. The effect when the Roses are in bloom can easily be imagined, and the method has the merits of being simple and inexpensive.

Ground Plants for Fuchsias in Beds.—For bedding, some of the dwarfer Fuchsias are very well adapted, but the effect is often destroyed by the unsuitability of some of the flowers chosen as carpeters or for groundwork. We have found nothing better for dark Fuchsias than plants of the old double white Pink, whose glaucous foliage in itself forms an admirable setting for the Fuchsias, and which is not reduced in value in the slightest by its flowers. For light Fuchsias the dwarfest blue Ageratums are as good as anything we can have. These plants were largely used by an experienced gardener years ago, and we have seen nothing better as yet to supersede them.

The Sea Buckthorn (Hippophae rhamnoides.)—It is not generally known that this beautiful seashore shrub produces male and female flowers on different plants. Needless to say, the male flower-bearing plants do not produce berries; at the same time, it is advisable to have a male plant in the vicinity to obtain a good display of berries among those shrubs bearing female flowers. An even better method is to graft branches of the male upon the berry-producing shrubs, and thus ensure a free distribution of pollen at the time of flowering. The Sea Buckthorn is a native of our seashores, though it is equally happy in inland gardens.

Delphiniums and Slugs.—In common with many other plants, the Delphiniums are commencing to grow, owing to the unusual mildness of the season. The crowns of the plants are swelling, and although they will not be seriously damaged by frosts later on, there is considerable danger from slugs. We have seen plants partially ruined by slugs eating away the young crowns. Readers who now find the crowns quite bare, owing to their being so washed by the rains, should place some fine ashes on them to a depth of 1 inch or rather more.

Hardy Heaths in Midwinter.—Owing in a large measure to the exceptionally mild weather, hardy Heaths are flowering much earlier this winter than usual. In our gardens just now Erica mediterranea hybrida, with E. codonodes or E. lusitanica, are the most beautiful, the rose pink flowers of the former and the white ones of the latter being much appreciated. E. carnea and its white variety alba are also flowering freely; the type is the best for a bold display. Closely allied to the true Ericas is the Ling, Calluna vulgaris, and the white-flowered form of this, commonly known as white Heather, is full of flower-buds that are far enough advanced to give the bed quite a white appearance. All hardy Heaths should be planted in colonies.

Two Showy Greenhouse Plants.—An effective combination of two rather uncommon plants was noted recently in the greenhouse at Kew. The plants were the Mexican Jacobinia chrysostephana and the Brazilian Tibouchina semidecandra. The latter species was grown in bush form, the individual plants being 2 feet to 2½ feet high, and composed of five or six main branches well furnished with short branchlets, from which the large purple flowers were freely borne. Jacobinia chrysostephana was represented by bushy plants about eighteen inches high, each branch being terminated by a head of orange-coloured flowers.

"The Orchid Review." — This monthly journal of orchidology is now entering its twenty-first year. The first issue appeared in January, 1893, when it was established to supply a long-felt want among amateurs of Orchids, viz., a journal devoted to their special interests. Every branch of orchidology, including cultivation, evolution, structural peculiarities, natural distribution and the vexed question of hybrid nomenclature, has been discussed and continues to be discussed in the pages of "The Orchid Review." The importance of this extremely useful work is fully recognised and appreciated by Orchid experts, and while wishing it every success in the future, we take this opportunity of congratulating Mr. R. A. Rolfe, A.L.S., the editor, on the success he has achieved.

CORRESPONDENCE.

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

Camellias in the Open.—Reading Mr. S. Arnott's notes on "Camellias in the Open," page 646 of THE GARDEN for December 28, I thought perhaps it would be of interest to others to know that we have here a tree of C. nobilissima now in flower, and which has been flowering off and on for the past six weeks. It has had as many as three dozen blooms expanded at one time. It is about one and a-half miles from the sea.—J. S. HIGGINS, *Glynllivon Gardens, Carnarvon.*

Plants Flowering Out of Season.—Amid the many plants now flowering out of season, the most remarkable here is, I think, the common Cowslip, which does not flower in a natural way until April. In a wood on a hill having a north aspect, flowers were picked from two plants on December 17. My Christmas Roses of the altifolius variety growing at the foot of a south wall were all over before Christmas Day. My first flower of Iris stylosa was gathered on December 20, which is not an unusually early date for that variety.—E. MOLYNEUX, *Swanmore Park.*

Two Winter-flowering Honeysuckles.—All who appreciate perfume in flowers—and who does not?—should grow the Bush Honeysuckle, Lonicera fragrantissima, which is now in flower in many places. Old specimens will often attain a height of from 7 feet to 8 feet, and it is a pleasant surprise, on a calm day, to enter the zone of fragrance, many yards in extent, created by such a shrub, every shoot studded with small ivory white blossoms, deliciously scented. Though by no means a showy shrub, it is far from being devoid of beauty, its shoots being freely set with small white blooms. Sprays in flower when cut and brought into the house will fill the living-rooms with delicious perfume for many a day. This Honeysuckle is classed as an evergreen, but when exposed to cutting winds and severe frost it often loses its foliage. L. Standishii is a very similar species, bearing small white, sweet-scented flowers; but where only one is grown, L. fragrantissima is preferable.—WYNDHAM FITZHERBERT.

Narcissus pallidus præcox.—Turning up an old copy of THE GARDEN dated 1901, I find a note of mine in praise of Narcissus pallidus præcox, and I have not altered my opinion. My first flowers of it opened under glass the last week in December, and outside it had at that time burst its spathe. No Daffodil here ever opens so early, whether protected or not, and that I suppose is its chief charm to those to whom the Daffodil appeals. It is a variable and capricious plant from several points of view. For instance, in potting it, it is futile to put more than one bulb in a pot, for the flowers open at all sorts of times, and no two flowers seem of quite the same pattern. Then, again, it is delicate in constitution, and the bulbs here seem to disappear after a season or two; but it seeds freely and, if planted in places where the seedlings have a chance of germinating and remaining undisturbed, one gets a successional supply of this pretty little Pyrenean Narcissus without the trouble entailed by successive replantings.—F. HERBERT CHAPMAN, *Rye.*

Rhododendron dauricum at Christmas.—Very rarely has this Rhododendron been seen to such great advantage as during the present winter, the mild weather and almost total absence of frost during the three or four weeks immediately preceding Christmas being exactly what was wanted to allow it to open its flowers, so that throughout Christmas Week it was a mass of rosy purple flowers, and certainly one of the showiest of outdoor plants. Quite recently a fine group in full flower was noted between the Palm House and Temperate House at Kew, while other well-flowered examples were seen in the rock garden. An illustration of one of these, from a photograph taken on Boxing Day, is given herewith. R. dauricum is a native of Dahuria, Mandshuria and Sachalin, and, coming from a cold region, a spell of mild weather in midwinter causes it to begin to open its flowers very early in this country; therefore they often fall a prey to frost before they can all expand. Nevertheless, it is a good kind to plant, for in those seasons when it does escape injury it adds a bright touch of colour to the garden at a very dull season. There are several forms of the plant, some having deciduous leaves, and in other cases the leaves are evergreen or sub-evergreen.—D.

RHODODENDRON DAURICUM, PHOTOGRAPHED IN THE ROCK GARDEN AT KEW ON DECEMBER 26, 1912.

Greenhouse Eupatoriums.—The Eupatoriums, referred to by "H. P.," page 646, issue December 28, are extremely valuable for the conservatory and greenhouse, furnishing during the autumn and winter months, or, at least, until Christmas is well past. They are very useful to amateur cultivators, as the plants can be grown in pots in the open air, just like Chrysanthemums, during the summer months. Unstopped plants yield very fine heads of flowers; plants stopped branch out freely and form nice bushes, being serviceable in this way as well as for yielding cut blooms for vases.—B.

Lewisias Cotyledon and Howellii.—It would be of value to many if Mr. Stormonth, whose note appears on page 2, January 4 issue, would tell us how long the Lewisias named above have been hardy in his nursery. His is not the usual experience, even in places much further South than Cumberland. So far as regards the habitats of L. Cotyledon, the authority of the "Index Kewensis" supports the statement by your contributor on page 365 (December 21) that these are in California. It is, however, satisfactory to learn that the above come from Alaska also, and it is quite likely that plants from that habitat will stand our winters better than those from further South. L. Tweedyii, which comes from Oregon, may perhaps live for a time at Kirkbride also; but one would like to learn precisely what species have stood the winter in the open for a series of years in Mr. Stormonth's most interesting nursery, which is, by the way, in a mild district for the county in which it lies.—S. ARNOTT.

Propagating Polygonum baldschuanicum.—In your issue of December 21 last it is said of this climber that "both cuttings and layers are somewhat erratic in their behaviour." Is it meant that they are difficult to strike? I have only had one experience of it, which was as follows: Last April I took thirteen cuttings of the young growth, each taken with a heel. These I placed in a pot in sandy loam, and from them obtained a dozen strong plants, several of which made growths of over twelve feet last summer. The plan I adopt for striking cuttings is as follows: Insert the cuttings in a pot in the ordinary way. Then place the pot in a larger empty pot. This pot should be so much larger that the tops of the cuttings are beneath its rim. A sheet of glass is then placed on the top, so making a sort of propagating-case. I find the cuttings strike with remarkable freedom in this contrivance. On one occasion cuttings of double Gorse had made roots over three inches long within a week, and that in an unheated greenhouse in summer.—WALTER DE H. BIRCH, *Walton-le-dale, Lancashire.* [Our correspondent has been successful in his efforts. Sometimes cuttings root quite easily, and at others are difficult to strike successfully.—ED.]

Fragrant Chrysanthemums.—From my experience the single-flowered variety Mrs. Langtry is quite the strongest in perfume, and pleasing as well. This variety was very popular two decades ago. It is especially free in flower and grows vigorously in quite a small pot.—E. M.

Two Early English Flower Books.—In reply to the Rev. J. Jacob's request for information, page 652, issue December 28, 1912, Rea styles himself a gentleman, *vide* title-page of his book, "John Rea, gent." He seems not to have owned any property; at least, he rented the tenement at Kinlet, and some land he cultivated he had on lease, and probably lived on the profits from the latter. His garden he made himself, with the assistance of labourers. It has been thought by some that in the production of the poetry which distinguishes his book, his son-in-law, the Rev. Samuel Gilbert, had a more important share than those who helped him had in garden-making. Anyhow, he had the pleasure of seeing his initials appended to one effusion. The book appears in "Horticultural Bibliography" under two titles—by that given it by Mr. Jacob, which is really a sub-title for Part I., and by that on the engraved frontispiece, "Flora, Ceres and Pomona," which is the better, as it indicates the purpose of the volume. My copy has in the second title ("Flora seu et Florum Cultura") the name of Nath. Brook as publisher; the first title and the other sub-titles that of Richard Maniot. It is bound in the same style as Evelyn's "Sylva" of 1664. The second edition, it may be added, contains fuller lists of some plants than the first.—R. P. BROTHERSTON.

The Flower Garden in Winter.—In reference to the plants mentioned on page 2 of your last number, I have the following in flower in the open: Iris reticulata Krelagei, Hepaticas, Leucojum vernum (Snowflake), Chionodoxa sardensis, Rhododendron racemosum, Cheiranthus alpinus, Anemone sylvestris, Arabis albida flore pleno, Chimonanthus fragrans, Crocuses (three species), Adonis amurensis, Campanula grandis, Primula denticulata, Spiræa Thunbergii, and Pyrus japonica (four varieties). In a day or two Saxifraga apiculata, S. Elizabethæ, a strong spike of Delphinium (variety King of Delphiniums), three spikes on a plant of Lupinus polyphyllus and a big bush of Kerria japonica should be in full flower. Last week I had a Raspberry cane in bloom, and I can any day cut some thick sticks of Asparagus growing in the open without any adventitious aid. Walking round a neighbour's garden to-day, I noticed, among others, a yellow Carnation in flower, also an Erigeron, Achillea tomentosa, Statice tartarica and a big group of Erica arborea. By the water's edge Caltha polypetala had half-a-dozen fully-expanded flowers, and, close by, a Water Lily had five bloom-buds on it. On a south wall Ceanothus Veitchii was a mass of bloom-buds, which should open, if the present weather lasts, in about ten days' time. My wichuraiana Roses have basal shoots on them which one would be proud to see in July. It will go hard with these if severe frost comes. Just now it is not a question of what is in flower, but what is not.—B., *Weybridge.*

FORTHCOMING EVENTS.

January 15.—North of England Horticultural Society's Meeting at Leeds. Lecture by Mr. R. Farrer on "Treasures of the Alps."

January 21.—Royal Horticultural Society's Meeting and Exhibition.

GARDENING ACROSTICS.

As announced in our issue for December 14, 1912, we are publishing a series of eight acrostics based on gardening or simple botany. Prizes of £3, £2 and £1, respectively, will be awarded to those sending in correct solutions of all the acrostics. The names of those who have correctly solved the problems will be published from week to week, and the final list of prize-winners in our issue of February 22. In all cases the Editor's decision must be final. The solution to Acrostic No. 4, which appeared last week, will be published next week, and the solution to No. 5, which is printed below, will be published in our issue dated January 25. For full rules governing the competition readers are referred to page 623 of our issue for December 14, 1912.

DOUBLE ACROSTIC No. 5.

The very latest in the latest fashion in gardening. Some of the things that might be tried in them.

1. The first letters in the surnames of two of the first men who tried to find out what was inside plants.
2. The most famous "Green."
3. A seventeenth century Virgil.
4. "Seed of the Sun"—a pretty name for a fruit whose modern name might possibly be connected with "præcox."
5. A correct ending.
6. A plant with many names. The right one here is suggested by the seeds.
7. A celebrated cultivator of, and writer about, the Auricula.
8. Responsible for many *quaint* plant names.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than January 18. Mark the envelope "Acrostic" on the upper left-hand corner.

SOLUTION AND NOTES OF ACROSTIC No. 3.

"SOPS-IN-WINE—CARNATIONS."

One of the oldest English names of the Carnation was Sops-in-wine, from their being used to flavour wine.

*	1.	S.		C.
	2.	O	LEARI	A
†	3.	P	ETE	R
‡	4.	S	ALMO	N
	5.	I	RIS SUSIAN	A
§	6.	N	U	T
‖	7.	W	INTERI	I
	8.	I	NDIG	O
¶	9.	N	ITROGE	N
**	10.	E	CHINOP	S

* Very often "s" and "c" are placed wrongly in "Fuchsia," *e.g.*, Slater's "Floral Guide," page 93. † Peter the Great rented Evelyn's house while he was in England learning the art of shipbuilding. He did great damage to the garden. ‡ Salmon's "Herbal," published in 1710; a large folio, really as much an inventory of garden plants as a herbal. § Pit=grave and Nit=nut. This is a form of the popular idea that many berries foretell a hard winter. ‖ Primula Winterii, a most distinct and lovely Primula from the Himalayas. ¶ Nitrogen promotes the growth of plants. ** So-called from the resemblance of the round flower-heads to a sea-urchin. In Greek a sea-urchin is "echinops."

SOLVERS OF ACROSTIC No. 2.

CORRECT solutions of Acrostic No. 2, which appeared in our issue for December 28, have been sent in by the following: "Observer," M. Browne, Mrs. H. Jenner, "Traveller's Joy," "White Lady," S. W. Philpott, "Retrac," E. B. Anderson, "Arnold," William Bond, Mrs. Ferguson, W. P. Wood, "Elm, Bampton," "R. P. B.," and "Scottie." The word "Hoxton" proved a stumbling-block, the majority of the solutions sent in giving this as Hampton, Holborn or Hatton Garden.

*** *The names of those who have correctly solved No. 3 will be given next week.*

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed and mounted P.O.P. prints must be sent.
5. All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken of them.
7. The Proprietors of THE GARDEN reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

THE GREENHOUSE.

THE RAISING OF ORCHIDS FROM SEED.

THE raising of plants from seed is always an interesting pursuit, especially when the object is to produce a new "break" in either flowers, fruits or vegetables. There is a certain degree of delightful expectancy which only those who have had practical experience can realise, and this is more especially felt when raising Orchids from seed. Although much has been accomplished with this great family, more remains to be done, particularly with some genera; but we must always have an object in view, for the days of haphazard crossing are past, and the old idea "you can never tell what you will get" is obsolete. This, however, is just by the way, and we must assume that the seed-pod is ripe and the contents ready for sowing.

1.—HOW TO PREPARE POTS FOR ORCHID SEEDS. ON THE LEFT IS A POT READY FOR SOWING, AND ON THE RIGHT ONE CONTAINING VERY SMALL SEEDLINGS.

The House.—The methods described in the present article apply to most, if not all, epiphytal Orchids, of which Cattleya, Lælia, Brassavola and Dendrobium may be cited as examples. Seeds of the terrestrial kinds, such as Disa, Cypripedium and Calanthe, are best sown around plants belonging to the same genera, selecting a specimen that will not require repotting for at least a year. A warm, moist atmosphere is essential for the successful raising of Orchids from seed, and in some establishments a small frame is arranged in the warmest corner of a house where the temperature varies from 65° to 70° Fahr. If the body of the frame is extended to the floor, it can be kept 5° or more higher than the house, while, if necessary, the surroundings can be maintained near saturation point; but this ought not to be overdone, or the canvas and soil will rot before germination takes place.

Preparing the Seed-Pots.—In the first illustration are shown two pots, one just prepared for sowing the seed, and on the right hand the seedlings are ready for pricking off in store pots, although they are rather too minute to be seen to advantage in the illustration. Each pot is filled one-half of its depth with drainage; then a ball of soil, which consists of peat, partly-decayed Oak leaves and sphagnum moss, is rolled up in a piece of cheese cloth, calico, or similar material, and wedged tightly in the pot. A thin layer of sphagnum is then placed round the side and neatly clipped off, when we get an example like that on the left-hand side of the illustration. The surface must always be at least half an inch below the top of the pot, or the seed, which is very light, may be washed over.

Sowing the Seed.—This is best sown immediately after it is ripe, excepting, perhaps, during the winter months, when it can be stored in paper where the temperature is about 60° Fahr. till spring arrives. The pans should be well watered twenty-four hours in advance, the seed may then be sprinkled lightly and evenly over the surface and not covered in any way, while the best method of distributing the seed is with the blade of an ordinary budding-knife; but after sowing one pod the knife must be carefully wiped before starting another, or the seed may get slightly mixed and cause confusion when the seedlings flower. I might state here that accurate records ought always to be kept. Careful watering is absolutely necessary, and this can be brought about by standing the pans in tepid water and allowing it to percolate through the soil, or employing one of the numerous fine sprayers. After the seed is sown it should never be allowed to become dry, but the other extreme must also be avoided.

Pricking Off the Seedlings.—In four of five weeks germination will have taken place, providing the seed was fertile, and numerous little green globules will be seen on the surface. As they become larger they are pricked off with a pointed stick into what are known as store pots. These are 2½-inch pots, which are filled three parts of their depth with drainage, the remaining space being occupied with the usual Orchid compost cut up rather fine, and closely clipped so as to form a level and firm surface. On the left of Fig. 2 may be seen such a pot as I have described, with twenty or thirty small seedlings, and as they grow more space must be given. In the other pot are three larger seedlings, and at the next repotting each would be placed in a receptacle of similar dimensions. From the time of sowing the seed till the flowering stage is reached the plants are never permitted to become dry at the base, nor is the rooting medium allowed to get into a sour condition. A moist, buoyant atmosphere is advisable and an average temperature of 65° Fahr., while cleanliness is a most important factor, for thrip will soon destroy the tiny seedlings or cripple them to such an extent that progress is considerably retarded. Although the method of raising Orchids from seed is rather different to that adopted for most other plants, yet it really presents very few difficulties. Our aim should be to flower each plant in the shortest possible time, and to this end repot directly a larger receptacle is needed or the soil is in a bad state, keep the house and seedlings quite clean, the surroundings moist, give a gentle spray overhead occasionally during the spring and summer months, using an Abol or similar spraying syringe, and maintain an equable temperature throughout the year. If these details are observed, success is assured.

S. T.

ROCK AND WATER GARDEN.

HOW TO MAKE AND PLANT A STREAMSIDE GARDEN.

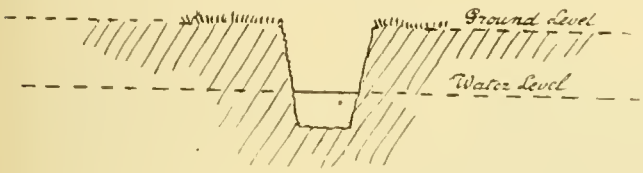
TO have water, whether of pond or stream, in a garden is the greatest possible gain, for it enables the ingenious garden owner or designer not only to grow in perfection many beautiful plants, but to treat the watery places, according to their nature and capability, in various delightful ways. The kind of stream that is easiest to deal with is one which has a shallow flow over a stony bottom and that is not much below the general ground-level. Here we have, ready-made, the most desirable conditions, and it is an easy matter to plant the banks and water edges without any work of shifting or shaping ground.

If the little waterway passes through dressed flower garden, it may be tamed to take its part in the garden design in rills and pools and basins, bordered with wrought-stone kerbing and planted with such beautiful things as the Japanese Iris lævigata and I. sibirica, scarlet Lobelia and the fine double Arrowhead. But if it passes through the outer part of the garden, or near grounds of wilder character, the plants would be, many of them, natives—the Water Plantain with its beautiful leaves, the Flowering Rush (Butomus), the lovely Water Forget-me-not, the deep yellow Marsh Marigold, the bright clear yellow Mimulus, so long acclimatised that we class it as a native; then for foliage the common Bur-reed (Sparganium ramosum), Lady Fern and Dilated Shield Fern; then the double form of the wild Meadow-sweet and its foreign congeners the pale pink Spiræa venusta, the rosy S. palmata and the larger white-plumed S. Aruncus, native of the banks of alpine torrents. There are other of our beautiful native water-side plants, but these will be enough for a considerable length of planting. It should be remembered that the best effects are gained by some restraint in the numbers of different kinds of plants used. If in one stretch of 20 feet to 25 feet the plants are blue Forget-me-not, yellow Mimulus and Lady Fern only, one can see and enjoy these lovely things to the full, and far better than if there were two or three other objects of interest besides. It should also be borne in mind that the plant-pictures of wise selection and good grouping are best seen from the opposite side of the stream. If its direction is sinuous, there will be ample opportunity for carrying the path across

2.—ON THE LEFT IS A POT OF SEEDLINGS THAT HAVE BEEN PRICKED OFF, AND ON THE RIGHT ONE CONTAINING THREE LARGER SEEDLINGS.

and across, so gaining different aspects of light on flower and water. The path may cross either by stepping-stones or by some very simple bridge, something much better than the so-called rustic bridge that so commonly defaces garden waters. If the stream is not shallow and stony-bottomed, it is worth a good deal of work and trouble to make it so.

Not only is it pleasant to see the clear pebbly bottom, but it makes more movement of water, and the movement brings forth that sweet babbling, the language of the water, telling of its happy life and activity. One may learn the value of this both for sight and sound at many a bridge in country places where a road crosses a running stream or small river. On one side or other of the bridge there is generally a shallow, stony place where the water is not much more than ankle-deep. However ancient the bridge may be, this shallow is the evidence of a still older ford. The ford must have been made by widening the area of the flow and by shallowing the bottom, putting down stones to hinder its being washed out. It is a useful lesson in the treatment of garden streams.

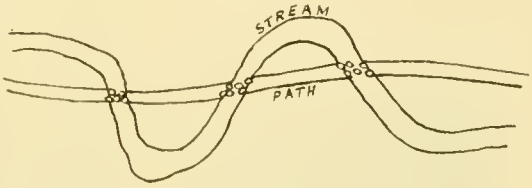


PLAN SHOWING SECTION OF A DEEP DITCH.

Sometimes the only stream one has to deal with is running water in the bottom of a straight, deep, narrow ditch, with nearly vertical sides. Nothing can be less inspiring to the planter than such a ditch; yet, on the other hand, nothing is more stimulating to its power of invention and determination to convert unsightliness into beauty. The ditch, as it exists, is useless except as a drain, but there is the precious running water—the one thing most wanted. In such a case it is often advisable to make an entirely new channel, excavating a good width so as to gain plenty of space down at the water's edge, and to give the stream some other form than a straight one. A natural stream is seldom straight, and though in gardening in general straight lines have great value, yet there are often reasons for departing from them, especially in groundwork of the wilder sort. So with our stream and its accompanying path, the character of the environment must be considered, the general lie of the land, the nature of the places where the water enters and leaves the garden and so on. The path should swing along in one easy line, not straight, but not going out of its way to twist for no reason—an unpardonable offence in all gardening. The course of the stream may be more erratic, and a glance at the sketch will show how such planning gives opportunities for planting and enjoying a limited number of pretty things at a time, for each bend of the brook may show quite a different treatment.

The soil is taken out not only for the wider, shallower stream, but nearly down to the water-level for a width of some feet on the pathside. The spare earth is thrown up beyond the path and shaped so that it rises first gently and then a little more sharply. The rest of the excavation goes on the other side of the stream, rising easily from rather near the water's edge. In the section the shrubs on the banks are shown of the size they would be about a year after planting; eventually they would be quite as big again. The course of the stream is dug out less than one foot deep, flattish rough stones are laid at the bottom, and over them smaller stones. If, as is likely, the path is inclined to be damp, it can be made dry and solid by ramming small stones into its surface, or it can be roughly laid with flat stones in the wettest places. The path must have the character of a wild path, not that of a garden walk—nothing that suggests rolled gravel, and no straightly-trimmed hedges.

GERTRUDE JEKYLL.



PLAN OF A PATHWAY AND STREAM.

A STREAMSIDE GARDEN THAT HAS BEEN MADE FROM A DEEP DITCH.

THE ROSE GARDEN.

NOTES ON THE NEWER ROSES.

(*Continued from page 9.*)

THE NEWER DECORATIVE ROSES.

THE advance that has been made of recent years in this section of the dwarf decorative or garden Rose is very great, and yet one feels, great though it has been, it will be greater still in the near future. Those who have seen the Roses not yet in commerce feel that that much is, at any rate, assured from every point of view—scent, freedom of flowering, length and continuity of the flowering period, colour, shape and habit of growth. In every one of these respects advances are being made; yet perhaps if one was asked to say in which respect was the greatest advance to be found, one would say colour—Queen Mary, Irish Fireflame, Mrs. C. E. Peirson, Old Gold, Mrs. Hunting and Lady Mary Ward, to name some of the new Irish Roses, and then in this connection one must not forget Pernet-Ducher's great work. Probably the foundation of this yellow-in-all-shades advance—a great deal of it—can be traced back to that source; at least, I should imagine so.

In dealing with these decorative Roses I shall limit my selection to those that I have grown or know intimately enough to speak of with some degree of confidence. This at once shortens my task very considerably. Might I suggest to your readers that they would help on the cause of the Rose by naming any new Rose they may have tried and found satisfactory, and by forwarding a short description for insertion in your columns. Roses vary so much in behaviour, according to the climate, soil and attention they receive, that a good Rose in one locality may easily be unsatisfactory in another, and *vice versa*. Where I have already referred to a Rose under the exhibition varieties, I shall not include it here except by reference. Very many of our new exhibition Roses are first-rate garden Roses also.

Alice Lemon (E. G. Hill, 1912).—See notes on "Hybrid Teas for Exhibition."

Andre Gamon (Pernet-Ducher, 1910), H.T.—See notes on "Hybrid Teas for Exhibition."

Arthur R. Goodwin (Pernet-Ducher, 1909).—A pernetiana Rose, and one of the best of the section, so far as we have made their acquaintance; it is named after one who was once a keen rosarian, but who now goes in for bulbs! A free-flowering, pretty, decorative Rose of good habit; colour variable, pale orange yellow, veined old gold. Mildew-proof with me and scented.

Beaute de Lyon (Pernet-Ducher, 1910).—Another of this class, but in habit of growth partaking of more of the original cross, Soleil d'Or. The colour is a bright pink shade of terra-cotta, quite unusual, but which appears again in Mme. Edouard Herriot. A Rose one would grow for its extraordinary colour, just as one would include Juliet; but a bed of it would be a mistake.

Berthe Gaulis (Bernaix, 1910), H.T.—A useful Rose. Colour, deep China pink, occasionally quite a good shape and of some size and substance. I am giving it a further trial.

British Queen (S. McGredy and Son, 1912).—See "Exhibition Varieties."

Carine (A. Dickson and Sons, 1911), H.T.—A beautiful bedding Rose, and one that has been very much admired here, so much so that it was nearly always cut first if Roses were wanted for the house. That tells its own tale; at least, I think so. It is a Hybrid Tea with a great deal of

Tea blood in it. If one might venture a guess at its parentage, I should say that G. Nabonnand had had something to do with it. The colour is variable, creamy fawn, coppery salmon in the early stage, but very attractive at all times. A delightful button-hole flower in the bud stage. Excellent habit of growth, flowers being carried erect. Very sweetly perfumed; altogether a desirable Rose.

Southampton. HERBERT E. MOLYNEUX.

(To be continued.)

GARDENS OF TO-DAY.

HOPETOUN HOUSE GARDENS, LINLITHGOWSHIRE.

SITUATED in one of the favoured corners of Scotland, these extensive gardens can easily claim a place of equality with the best of their kind in the United Kingdom. The grounds, lawns and shrubberies at Hopetoun, which is the seat of Lord Linlithgow, are of great extent, while the garden proper covers an area of over twenty acres. I do not know who chose the site originally, but that it must have been one well versed in such matters is evident, as no finer situation for a large garden could be found anywhere. The ground slopes gently from west to east, and much more steeply from north to south, into a winding dale, or, as we call it in Scotland, a glen. To the north side are the very extensive flower gardens, while on the south side are the kitchen and fruit gardens.

The glass structures are situated at the west side of the gardens, and are of considerable extent. They comprise long ranges of fruit-houses, large stoves, Palm-houses, Orchid-houses, Carnation-houses and, indeed, a quite modern glass equipment.

A long span-roofed house is filled with fine sturdy plants of Begonia Gloire de Lorraine, both white and pink. As these are in great demand during the winter, some five hundred plants are cultivated. Carnations of all kinds are grown in enormous quantities. A large span-roofed house was recently converted into a Carnation-house, and that it is admirably adapted for this purpose the healthy plants amply prove. A smaller house, running at right angles to the one just mentioned, was filled with a batch of young Perpetual-flowering Carnations in front, while at the back are older plants that have been giving a constant supply of fine flowers for the last twelve months. They were still, at the time of my visit, giving plenty of fine blooms on stiff, clean stems. Still another house was filled with a fine batch of these Tree Carnations, just throwing up their first spikes, and Mr. Highgate, the head-gardener, acknowledged that he was prouder of this house than of almost anything else on the place. Many other interesting subjects could be named; but space, or, rather, the want of it, compels me to pass on to what is really the glory of Hopetoun—

The Flower and Rose Gardens.—The north side of the gardens is protected by a high brick wall, against the west end of which are built the principal vineries. Further east this wall is clothed with Pears, Peaches and Apricots. The Pears last season were remarkably fine. I do not remember ever seeing finer Marie Louise and Pitmaston Duchess. In front of these Pears are broad borders, with large Rose and Sweet Pea pillars at the back. All the best Sweet Peas are grown, and also climbing Roses of the wichuraiana type. One of these borders is devoted to Carnations, all the most distinct border varieties being grown in hundreds.

Snapdragons.—Another section holds hundreds of Antirrhinums, all the finest of Sutton's varieties being grown. Those who have never seen Antirrhinums massed as they are at Hopetoun can have no idea of the gorgeous effect produced by these simple flowers. I shall never forget my first visit to these gardens several years ago, when the first thing to take the eye was a border in front of the Peach-houses filled with 2,000 Antirrhinums. This sight of itself was worth a long journey. Last season they were equally fine, but hardly in such numbers, I think.

Pentstemons.—While the Antirrhinums are always fine, they must surrender pride of place at Hopetoun to the Pentstemons. Nowhere have I seen these glorious autumn flowers in such perfection. I have no idea how many plants are used, but they must run into several thousands. All the very finest types are planted in separate colours, and this feature of these gardens must be seen to be appreciated. Last year I think they were finer than I have ever before seen them, and that is saying a good deal. While all were fine, special mention must be made of Crimson Gem, Daydream (raised at Hopetoun) and Mrs. J. Forbes. The last named is the largest flower I have yet seen, while the spike is long and massive. Daydream is, so far as I know, by far the finest large-flowered pink, while Crimson Gem is the most striking of all the family.

East Lothian Stocks.—The late Lord Linlithgow was very fond of East Lothian Stocks, and one long border was yearly devoted to these plants.

THE LARGE HERBACEOUS BORDER AT HOPETOUN HOUSE, LINLITHGOWSHIRE.

In 1911 a border under a wall and facing east was given to these delightful old plants, and very fine they were. Planted in rows of a colour, they were greatly admired by every visitor. On a similar border, further east, is a full collection of late perennial Phloxes.

The Herbaceous Border.—Last summer I was just late enough to see the famous winding herbaceous border at its best. On a former occasion I was fortunate enough to catch it at the height of its glory, and can safely say it is one of the finest of its kind in existence. It is a real mixed border in the best sense of the word, and none of the so-called colour-scheme freaks. The plants thrive and flower luxuriously, and all the very finest varieties of the various kinds are represented. I will not attempt to go into the merits of the different species used, but I was greatly struck with that grand biennial, Meconopsis Wallichii. The photograph of the border reproduced on page 22 was taken by Mr. Francis C. Inglis, photographer to His Majesty the King at Edinburgh.

The Rose Garden is on grass, the beds being large, and filled, for the most part, with one variety to each. The soil is just light enough to produce luxuriant growth, but all the varieties flower very freely and make a grand show in their season. The beds are usually carpeted with Viola Come-to-Stay. It would be easy to fill double the space and not exhaust the good things to be seen at Hopetoun, but I fear the Editor will even now be thinking that I have run on quite far enough. C. BLAIR.

Preston House Gardens, Linlithgow.

TREES & SHRUBS.

CULTURAL HINTS ON NEW AND RARE PLANTS.

TREES AND SHRUBS.—

(*Continued from page* 648, *Vol. LXXVI.*)

Magnolia salicifolia may be grown successfully in light, sandy soil, but it will be assisted if a little peat is placed about the roots at planting-time.* A little shelter, such as is afforded by other shrubs, makes an appreciable difference to its development, but it must not be planted in close proximity to very vigorous subjects. Its glistening white flowers appear in April, and it promises to become quite as useful as the well-known M. stellata.

Berberis Wilsonæ.—Both by its showy yellow flowers and bright red fruits this shrub is well worth a place in the shrubbery. Its requirements are simple, for, given ordinary garden soil, it will continue to give satisfaction without any special cultural attention. Pruning is unnecessary. Propagate from seeds.

Styrax Obassia.—Although not new, this Japanese shrub or small tree is very rare. Requiring well-drained, good loamy soil, it grows fairly rapidly in the warmer parts of the country, but has a habit of suddenly going wrong when in full growth. The large, rounded leaves and white flowers make a well-developed bush very attractive.

Corokea Cotoneaster is a rare New Zealand shrub which is well worth a position on a wall, or even in the open ground in the warmer counties. Light loamy soil, or sandy soil containing a little peat, suit it admirably. Its contorted branches, tiny dark green leaves and star-shaped, yellow flowers make it attractive.

(*To be continued.*)

THE DECIDUOUS CYPRESS.

(TAXODIUM DISTICHUM.)

THE Deciduous Cypress is a stately tree, possessing many interesting characteristics. As its popular name implies, it is deciduous, and in casting its foliage in the autumn it is, with the exception of the Larch, quite unlike the general run of conifers, to which family Taxodium belongs. Another peculiarity of the species, and one that has created a deal of interest, is the presence of "woody knees," about two feet above the ground, sometimes produced within a few yards of the tree when grown in swampy places. When the trees are permanently surrounded by water, it is not uncommon for them to produce very much enlarged basal trunks. But Taxodium is evidently a very accommodating subject, as it appears to flourish equally well on the top of a hill as it does in a semi-aquatic condition. This is borne out by the accompanying illustration, showing a remarkably fine specimen growing on the summit of St. Leonard's Hill, Windsor, in the gardens of Lady Tress Barry. This tree was the pride of the late Robert Brown, who for so very many years was head-gardener at St. Leonard's Hill, and whose lamented death occurred last year.

Considerable interest has lately been displayed in the fact that cones of Taxodium distichum were produced in different parts of the country last autumn, and an illustration appeared in our pages for November 9, 1912, of a cone-bearing shoot from the Duke of Northumberland's garden at Syon House, where the tallest trees of Taxodium distichum in Europe are growing.

A STATELY TREE OF THE DECIDUOUS CYPRESS IN THE GARDENS AT ST. LEONARD'S HILL, WINDSOR.

FLOWER GARDEN.

LILIES: A CAUSERIE.

(*Continued from page* 12.)

"Like the Lily,
That once was mistress of the field, and flourish'd,
I'll hang my head and perish."
—"King Henry VIII.," III., 1., 151.

SO Shakespeare wrote, but though he had no garden difficulties with Lilies imported from Japan or California, he here connects the fair flower with a delicacy of constitution. Our present-day failures likewise are not confined to recently-imported bulbs. We sometimes call the whole race evil names—pernickety, peevish, ill-tempered and so forth—when they will not grow as we wish and in the spot we choose for them. Our pardalinums perhaps refuse to produce the blaze of orange we planned in our callous modern way of planting, dubbed colour scheming. Oriental Poppies and scarlet Salvia grow well just there, and yet the Panther Lilies refuse to bridge over the blank moment when the croceums have gone and the Tigers have not yet appeared. Very disobliging of them, we say, but we do not stop to realise it is our own fault in selecting too hot and sunny a position for them, sorting them out by colour like silks for embroidery, and not by their own requirements, after the manner of the older and, to my mind, better school of gardeners, who thought more of the happiness of plants than of the blending of their colours. Take Baker's revision of the Liliaceæ and a map of the world, and mark a line round the native countries of Lilies. When you see what a wide stretch from East to West this line takes, and realise how many different climates must be included, and that, with the exception of the Siberian L. davuricum and some Chinese and Japanese species, the majority of Lilies live in more Southern and favoured climes than our England can boast, surely pity for these exiles from happier homes should replace our abuse of their inability to

acclimatise themselves without all our possible aid and sympathy.

We often wait till the frosts have cleared our flower-beds to remodel and plant, so it is just at the wettest and coldest period of the year that the poor bulbs are put into new beds—one may almost say into damp sheets, and chills and decay follow. A bulb of loose scales like a Lily is difficult to handle without bruising, or at least misplacing, some of the scales, and anything that tends to let an undue amount of water in, to lodge near the heart, and especially near a cracked portion of scale, is a serious danger in winter.

Besides care in handling, much may be done when replanting by placing sharp sand below the bulbs and tilting them slightly to one side to prevent, as much as possible, water reaching and resting in the heart, and then covering them to a depth of 1 inch or 2 inches with sand. Then we may look our Lily honestly in the face, feeling we have done our best for it, and may reasonably expect it to look back at us with fair flowers and plenty of them. The late Mr. G. F. Wilson ("Lily Wilson," as he himself has told us he was named, Canon Ellacombe having been his horticultural godfather) used to say every garden could grow three Lilies, and most of them three only. That is no doubt true, if one leaves it entirely to the garden to do the growing, for L. Martagon, L. pyrenaicum, and L. umbellatum or L. croceum would grow in any garden that was not a grove of Yew trees nor unduly disturbed by deep digging in the dog-days or hard frosts; but where knowledge and care on the part of the gardener are added, it would be better to move from a garden that would not also provide healthy clumps of L. testaceum, L. tigrinum, L. Henryi, L. Hansonii and L. pardalinum. L. giganteum also, I believe, can be made happy by anyone sufficiently in earnest about it to spend a little money and to take a good deal of trouble; but L. candidum, the Lily of all Lilies one most longs for, behaves so strangely and seems really to be wilful, pervicacious and wayward. It will often grow and increase in the most generous, warm-hearted way in a somewhat neglected cottage border, yet be quite unmoved by the flattery of a special bed and utterly unresponsive to the care lavished on it in some great garden. As I find the Lilies, they fall into three classes. First, the frail, delicate beauties that refuse to take a fancy to me and my garden. I name and pass by some of them: L. japonicum (Krameri), L. rubellum, L. superbum, L. tenuifolium, L. speciosum, L. elegans, L. Leichtlinii, L. Batemanniæ and L. longiflorum. These flower but once here, as though one good stare at what I can offer them for a home is sufficient to provoke suicide. Secondly, those that have made friends with me. Of these faithful dog-like creatures I must sing loud praises; and, thirdly, those with a cat-like disposition, that appear to love me when they happen to get just what they want, but which I always feel are ready to sulk and walk off with tail stiffly erect if they get their feet wet or their milk is not to their liking, to complete the feline metaphor, which, translated into Lily language, would be to die of stagnant moisture or the wrong manure.

E. A. BOWLES.

(*To be continued.*)

ACANTHUS MOLLIS. AN EASILY-GROWN PLANT THAT MAY BE INCREASED BY DIVISION NOW.

RENOVATING HERBACEOUS BORDERS.

THERE are times when it is not convenient to replant herbaceous borders, and when this is so, renovation should take place and stimulating food be provided for the occupants. Such free-growing subjects as Michaelmas Daisies, Polygonums, Bocconias, Helianthus, Chrysanthemum maximum and herbaceous Phloxes are soil-exhausting, and quickly become weak if not fed. When a border is replanted, the weakening of the centre of each clump is avoided; but where replanting the whole is not convenient, then renovation must be resorted to. To do justice to the plants, so that the border as a whole does not suffer, some of the weaker plants should be replanted. Choose a few vigorous root-growths from the outer portions of each. Before replanting, remove the soil 1 foot deep and as wide, assuming, of course, that the same subject is to occupy the same site; but if not, there will be no occasion to remove the soil. Replace the old soil with fresh. If not convenient to bring in quite new soil to the border, take some from the surface close by, replacing it with that removed from the site, adding a fourth part of manure in a decayed state. The whole of the border should be forked over between the clumps—quite lightly, of course, near the plants, so as to avoid disturbing the roots too much. Where space exists between the plants, dig the soil over deeply. As the work proceeds, bury a quantity of half-decayed stable manure near such plants as those already mentioned, as they are voracious feeders, and unless constant stimulants are applied, the growth becomes weak, and, naturally, a poor flower crop is the result.

When the digging of the border is completed, a mulching, 2 inches thick, of a compost made up of decayed vegetable refuse, old potting soil, leaf-mould, wood-ashes and road sweepings should be given. Such a covering not only imparts new life to the plants, but serves as a mulch during the early summer months, when a period of drought is often experienced.

One great fault made in the cultivation of herbaceous plants is that of allowing each specimen to grow to an unwieldy size. It is not an uncommon sight to see Michaelmas Daisies, Pyrethrums, Chrysanthemum maximum and Heleniums fully a yard across at the base, with stems half the strength they should be. Supporting the stems of such clumps as these is a difficult matter. The result is they are too often tied in close together, resembling a tightly-bound broom; the natural beauty of the plant is lost and the centre of the plant quite prevented from making a free development, whereas smaller plants can easily be kept in an upright position by the aid of one or two stakes and loose ties. Instead of retaining clumps of the larger size, it is better to reduce them to 6 inches, retaining the outer portion, filling up the space with half-rotted manure and fresh soil, which will invigorate the plant retained.

Swanmore Park. E. MOLYNEUX

A HARDY BEAR'S BREECH.

(ACANTHUS MOLLIS.)

THIS strikingly handsome plant is occasionally met with in the gardens of this country, although, speaking generally, it is a sadly-neglected subject. When grown on herbaceous borders it always attracts a good deal of attention by virtue of its tall flowering spikes and its equally attractive foliage. It is a plant of easy cultivation, and the one thing to bear in mind is that it requires plenty of room, for it is notoriously vigorous in growth. In regard to soil it is not fastidious, and, given a partially-shaded position, it makes an admirable background for other flowering plants. Propagation is usually effected by division of the roots either in the autumn or at this season, providing the weather is open.

GARDENING FOR BEGINNERS.

PRUNING AND CLEANING GRAPE VINES.

THE pruning of all Vines should now be completed with all possible haste. No hard-and-fast lines can be laid down with the pruning of

1.—A VINE ROD WITH LATERAL OR SIDE SHOOTS PRUNED BACK TO TWO BUDS TO FORM SPURS.

Vines, as some cases call for quite different treatment to others. For instance, young vigorous Vines, or even comparatively old ones provided they are strong and vigorous, may be pruned to two buds, and will crop as well as though they were pruned to five or six. Vines which need plenty of young wood to ensure a good crop of fruit are old Vines which have been subjected to early forcing for a number of years. Such Vines, naturally, become weakened through being forced out of season, and it is prudent in such cases to leave plenty of young wood so that there shall be a number of vigorous shoots from which to select the best bunches. Moreover, the extra foliage resulting from these liberal measures is a great incentive to root-action. Of course, there will be a superabundance of young growth, but this must be removed as soon as it can be determined which shoots are carrying the best bunches.

Another point which must not be lost sight of when pruning old Vines is the fact that old rods which are becoming weaker every year may be replaced by young, vigorous canes, but this contingency must be provided for some years in advance by selecting convenient shoots from as near the base of the old Vines as possible, and giving these shoots every chance to make good, stout growth. The lower spurs on the old rods must be sacrificed as these young canes develop. Eventually the old rods may be cut out, leaving the young ones in sole possession of the house.

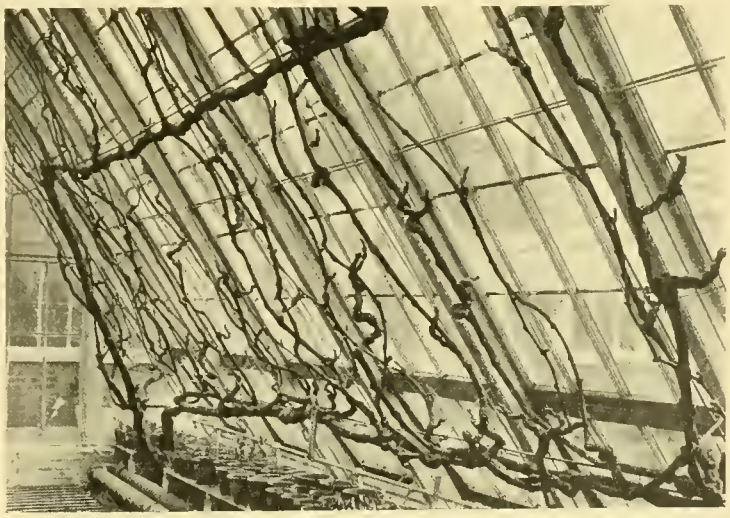
Cropping Young Vines.—There has been a great deal written from time to time of the extraordinary crops of Grapes that have been produced by Vines which have been planted only two or three years. I do not wish to cast any doubt on the accuracy of these statements, as I have seen young Vines carrying these heavy crops, but I would warn the inexperienced Grape-grower against such a practice. This heavy cropping of young Vines, although they may have made abnormally strong growths, is almost certain to end in failure. To build up strong Vines which are going to last through one's lifetime, or even longer, a strong foundation must be laid, and this is only possible by patience and care. However strong the growth is the first year after planting, the leaders should be cut back to 2 feet or 3 feet. Vines which have made unsatisfactory progress the first season after planting should be cut back to two or three eyes. The Vines are sure to make better growth the following year.

Newly-Planted Vines.—Young Vines which are intended for planting in the spring should be cut back to three or four buds, and the strongest growth must be selected to form the leader. Vines should be planted far enough apart to grow two, three, or even more rods from each plant. The life of Vines planted on this system is far longer and the growth far more vigorous than when they are planted on the single-rod system, as witness the famous Hampton Court and Cumberland Lodge Vines.

The Cleaning of Vines is one of the most important matters which call for attention at this time of year. Vines which are badly infested with mealy-bug need very severe methods to rid them of this pest. After the Vines are pruned, the house should be subjected to a thorough cleaning. The glass and woodwork should be first well washed with strong soft soapy water. The trellis and all ironwork where the insects are likely to be secreted ought to be painted over with paraffin. The rods should then be stripped of all loose bark, and any holes which are likely to harbour insect pests must be thoroughly cleaned out. A sheet of canvas or something similar should be laid down to catch all the loose bark, and this must be taken to the stoke-hole and burned. The rods must then be thoroughly washed with a strong mixture of soft soap and sulphur, using a stiff brush so that the solution may be well worked into the bark. This operation must be repeated just before the buds burst into growth, but great care must be taken so as not to damage the buds.

A careful look-out must be kept during the early stages of the Vines' growth for any stray insects which may have escaped the winter cleaning, as they spread with alarming rapidity. A few hours' careful searching before the Vines have made much progress will save days of weary labour when the trellis is covered with growth. I have tried cleaning Vines of mealy-bug by fumigating with cyanide, but while it killed the insects which were exposed, it failed entirely to have any effect on those which were concealed in holes or crevices. I have also seen the young, tender shoots badly affected by its use.

Lockinge. E. H.



2.—VINES GROWN ON WHAT IS KNOWN AS THE EXTENSION SYSTEM. FREQUENTLY EACH VINE IS KEPT TO ONE MAIN ROD, KNOWN AS THE SINGLE-ROD SYSTEM.

HOW TO SOW BEGONIA SEEDS.

THE seeds of tuberous and fibrous rooted Begonias are very small; they resemble dust or fine pepper, and, of course, it would be quite wrong to cover them with a body of soil. However, the proper way to sow the seeds is a very simple one, and if carefully attended to afterwards, there need be no difficulty in raising a big stock of plants successfully.

The seedlings are best raised in pots or pans. These must be clean and dry, also the crocks placed in them for drainage. A compost of sifted loam, sweet leaf-soil and sand in equal proportions should be mixed and the pans three parts filled with it. Make the surface level and smooth, and then well water through a fine-rosed watering-can. In an hour's time scatter the seeds evenly and not too thickly on the surface, and on them give a very light sprinkling of sand. Place the pans on a bed of damp moss in a warm place in the greenhouse or in a heated frame, and cover the tops with squares of glass. Both before and after the seedlings appear, any necessary water should be given by immersing the pans in a vessel of tepid water until the surface soil becomes dark with the rising moisture; then gently lift out the pans. If the tiny seedlings are thus taken care of and not directly exposed to the sun's rays, they will soon grow large enough to transplant.

SHAMROCK.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Care of Lawns.—A well-kept lawn is a delightful adjunct to the flower garden. At no season of the year can weeds such as Dandelion, Plantains and Daisies be removed with greater ease than the present. No opportunity should be lost in getting them removed while the weather remains moist and open.

Top-Dressing.—Where the grass is apt to be thin, a top-dressing of good rich soil or short manure, well worked in, will do a great deal of good; but too heavy a dressing is apt to kill the grass, so a small quantity should be given and well worked in, to be followed with a second dressing when the grass commences to grow, if it is thought necessary.

Moss on Lawns.—Where this has got a hold among the grass, it should be scratched out with short-toothed rakes, top-dressing afterwards as advised above, or in this case a good dressing of wood-ashes, well worked in, will, in many instances, eradicate it.

The Rock Garden.

Alterations.—During open weather any alterations or additions to the rock gardens should be pushed forward, for at any time now such work may have to be suspended for a while. During such alterations any of the smaller-growing shrubs may be replanted, also some of the larger and more hardy rock garden subjects; but as far as possible the smaller and more tender subjects should be left till the end of March or early in April, when they are less likely to be affected by the frost after removal.

Propagated Plants (whether from seeds or cuttings) that are being wintered in frames should be kept as hardy and dry as possible during the winter months, as with much moisture various subjects are apt to damp off.

Plants Under Glass.

Begonia Gloire de Lorraine.—With care and attention this splendid winter-flowering plant will keep our greenhouses and conservatories gay for two or three months longer; but, as the plants are now well in bloom, the structure in which they are kept must be quite dry, with a temperature of about 50° at night.

Cinerarias, Primulas and Cyclamen are all developing their flower-buds, and should be assisted with a little manure-water as often as they become dry. The former, also, should have more space given them as they develop their heads of bloom.

Perpetual-Flowering Carnations.—Nice short-growing shoots make the best cuttings if taken direct from the hard stems. Insert either in pots, pans or shallow beds in a compost of sand, old crocks or brick dust and a little fine loam; they will soon strike in a temperature of about 50°. If a little bottom-heat is at hand, so much the better, but this is not absolutely necessary.

The Rose Garden.

Pot Roses.—The earliest batch that may have been removed under cover a week or two ago should be pruned at once preparatory to starting, and, wherever possible, the main batch should be placed under cover. Quite a cool house is the best. Here they should be allowed to get a little dry before proceeding to prune them.

Tea Roses planted out under glass, having had their season of rest, may be thinned out somewhat, removing all weakly growth and pruning the other wood back according to the system adopted and the space at hand for extension.

The Kitchen Garden.

Hot-Beds.—The matter of hot-beds must not be forgotten for the forcing of early crops of vegetables, and hard weather is often a very suitable time for preparing and mixing manure and leaves for this purpose. It is almost unnecessary to say that very wet material does not heat as well as that which is fairly dry, so the manure, leaves, &c., should, if possible, be kept under cover and turned a time or two before it is made up.

Salad Plants in frames must be gone over regularly, scratching over the surface of the soil and picking off any decaying leaves. Give as much air as is consistent with the state of the weather. Endive should be tied up and covered over to ensure nicely-blanched plants, and Chicory and Dandelion placed in the Mushroom-house or other forcing place in quantities sufficient to keep up a regular supply. Also Mustard and Cress should be sown weekly and placed in one of the fruit-houses that have been started. Here it will come along nicely. Cauliflower, Cabbage, Onions and Lettuce should now be sown in boxes and placed in gentle heat.

Fruits Under Glass.

Melons.—A sowing should be made at once for early crops, and if a variety such as Blenheim Orange or Hero of Lockinge is selected, the fruits will be found to ripen slightly in advance of those of some of the heavier-fruiting varieties.

Cucumbers also should be sown to succeed those that are fruiting during the winter. If both the above are sown in 3-inch pots in fairly moist soil and plunged in the propagating-frame with a bottom-heat of about 70° to 75°, no water should be needed till germination has taken place.

Tomatoes.—These also should be sown in pans and placed in a warm house. Thin sowing is essential, as the plants draw very quickly during the early months of the year if the seed is sown too thickly. Sunrise and Ideal are two varieties that are excellent in every way.

Rhubarb.—Batches of this most excellent fruit or vegetable, whichever it is termed, should be placed in the forcing-house or in a frame on a hot-bed at regular intervals, according to requirements, as it will be found very useful as Apples and Pears get scarcer.

The Hardy Fruit Garden.

Pruning.—The work of pruning the Apples and Pears should be started at once if not already commenced, and my plan is to start on the walls first, and this before the ground has been prepared for the vegetable crops. This is distinctly advantageous, as it saves treading about on the ground that has been worked. The work of pruning is carried out on various systems; but, judging by the trees one sees in many gardens, the methods adopted do not always fall in with one's own ideas. All trees trained on walls or espaliers should be kept as short in the spurs as possible, so as to admit a maximum amount of light to all parts of the trees.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

The Seed Order.—The following are a few things worth including in the seed order: Asters of the Ostrich Feather and sinensis types in variety, Alyssum minimum, Anchusa italica Dropmore variety and Opal, Antirrhinums in variety, Long-spurred Aquilegia, Cheiranthus Allionii, Clarkia elegans in variety (especially Firefly and Double Salmon), Dimorphotheca aurantiaca and its hybrids, Dianthus Heddewigii (especially Salmon Queen), Gilia coronopifolia, Lavatera rosea splendens, Leptosyne maritima, Myosotis Royal Blue, Nemesia Suttonii and N. Hybrid Blue Gem, Sweet William Pink Beauty, Swan River Daisy and Thalictrum dipterocarpum.

Rhododendron arboreum.—This precocious species and its varieties are showing colour earlier than usual. If sharp frosts occur, they should be protected by a mat, as for lack of this small attention a season's effort is often rendered abortive.

The Wild Garden.

Formation.—Those who can afford the room—if they do not already own one—will derive great pleasure from a wild garden. In forming one all conventionalities may be dispensed with, and one can here safely follow their "own sweet will." Try to avoid incongruities, of course, and imitate Nature; the less formal the better. Those who have the advantage of a more or less undulating surface are happily circumstanced.

The Best Plants.—Of material for furnishing there is abundance. Tall subjects include Thorns, Cherries, Crabs and Amelanchiers, while shrubby subjects include Dogwoods, ornamental Brambles, Guelder Roses and Hydrangeas. Then herbaceous subjects include Crambe cordifolia, Senecio clivorum, S. tanguticus, Willow-herbs, Teasels, Delphiniums, Michaelmas Daisies and Bocconia cordata. A few clumps of Sweet Peas may also be included. Dwarfer subjects include St. John's Wort, Saxifraga peltata, Oreocome Candollei, Funkias, the more vigorous Saxifrages, Irises, Polyanthuses, Tulips, Snowdrops, Scillas and Dog's-tooth Violets.

The Rose Garden.

Protection.—We often have our severest frosts after this; if such occur, a little Wheat straw shaken loosely over the Teas and Hybrid Teas will preserve them from being damaged. Where planting could not be done in November, the ground should be prepared for planting next month. Work in some wood-ashes with the manure, and if the soil is deficient in lime, a little should be worked in among the top spit.

The Shrubbery.

Pruning.—Any deciduous shrubs which have not been pruned should receive attention at once to prevent the loss of sap.

Protection from Rabbits.—Where the grounds are not rabbit-proof, young, succulent specimens of Crabs, Cherries, &c., should either be protected from rabbits and hares by placing a circle of wire-netting round them or have their stems anointed with bitter aloes.

Plants Under Glass.

Begonias require a long period to germinate; therefore the sooner seed is sown the better. Fill well-drained pans with loam, peat, leaf-mould and sand, finishing off firm and smooth; water with a fine-rosed can, and after two hours sow the seed, mixing it first with some sand to aid in securing equality of dispersion. Do not cover with soil, but cover the pan with a pane of glass. Never allow the soil to become dry, and if water is required, supply it by partial immersion. Place in a temperature of from 60° to 65°.

Cinerarias.—Growth will again be more active, and mild stimulants should be applied twice a week. Vary the food; say, soot-water one week and guano-water or some other fertiliser the next.

Fruits Under Glass.

Vines.—In disbudding always retain a strong bud for preference, but uniformity of spread must always be kept in view; therefore, if only a weak bud is available to fill a previous blank, do not hesitate to retain it.

Peaches.—Where the trees are coming into flower, maintain a rather dry, buoyant atmosphere to assist in the dispersion of the pollen. The three artificial means of pollination are by a rabbit's tail, tapping the trees, and spraying with a fine spray of water. Pollination should receive attention in the forenoon.

The Hardy Fruit Garden.

Protecting Bush Fruits.—When fruit-nets are allowed to rest on the bushes, they are often much damaged in moving them off and on; this is especially the case with Gooseberries. Both, therefore, on the ground of convenience and of ultimate economy it is much better either to have permanent supports for the ordinary fruit-nets or to net all over with bird-proof wire-netting. It has sometimes been alleged that in the event of the latter method being adopted, damage would result through drip from the overhead netting. The subject was discussed at the December meeting of the Scottish Horticultural Association, when those who have had long experience of this method of protection testified that the allegation was groundless.

The Kitchen Garden.

The Seed Order.—When making up the seed order do not fail to include the following useful items: Seakale, Beet, Asparagus Kale, Sutton's Sprouting Greens and Turnip-rooted Beet for early use.

Brussels Sprouts.—Do not throw away plants which have been stripped bare; when growth commences in spring the growing tops will furnish a very nice dish before the early Cabbages turn in.

Rhubarb.—If some loose litter or leaves are thrown over a portion of the crowns, a supply will be available from the open air a fortnight before the crop comes away naturally. But as these form a comfortable harbour for mice, which often attack the crowns, a few traps should be set near, or a little Rodine provided for them. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

HORTICULTURAL CHANGES IN THIRTY-FOUR YEARS.

AS a regular subscriber to THE GARDEN and one whose first article appeared as long ago as 1879, I thank the Editor for his good wishes at the commencement of a New Year, which good wishes I am sure will be heartily reciprocated by all readers of this journal On such an occasion one may be pardoned a slight retrospect of the various changes that have taken place within the last thirty-four years and of the plants that were then quite unknown or looked upon as of minor importance, but which now occupy a prominent position.

Of those quite undreamt of may be mentioned the Streptocarpuses, Gerberas, Kalanchoës, many Primulas (especially P. obconica and P. malacoides), Golden-flowered Arums, and Cannas, at least in the light in which they are considered to-day, namely, as among the most desirable of flowering plants.

In the case of Roses, too, the changes have been great, for the single-flowered varieties were then completely ignored, the Hybrid Perpetuals were unchallenged by the Hybrid Teas, and the pretty little Polyantha race was then unborn. Rosa wichuraiana, too, whose introduction has had such far-reaching results, was then still in residence in far-off Japan, and had not made its appearance in this country.

Of Dahlias the massive show varieties, the fancies and the pretty little Pompons occupied the foremost position, though the single-flowered and the Cactus varieties were just beginning to assert themselves.

In Begonias great changes have taken place, not only in the tuberous-rooted section, but also in other classes. The most prominent feature of all has been the great influence of Begonia socotrana in giving us a magnificent race of winter-flowering kinds.

While Pelargoniums are as popular as ever, some sections, namely, the tricolor, show and fancy, have almost disappeared, but the members of the Zonal section are still universally grown, and in the Ivy-leaved class great strides have been made

In 1879 Chrysanthemums were firmly on the upward grade, and after a few years they reached the height of popularity; but whether they still hold that position has more than once of late furnished ground for argument.

The last decade has seen the meteoric rise of Perpetual-flowering Carnations and Sweet Peas, both of which occupy a far more important position than ever; and much the same may be said of hybrid Orchids, whose one stumbling-block is the outrageously long and, to the average person, senseless names applied to many of them.

Other features of the last thirty-four years are the gradual disappearance of specimen stove and greenhouse plants, especially of the hard-wooded class, and the continually increasing popularity of hardy plants of all kinds, either for the rock garden, herbaceous border, or the varied purposes to which they may be applied. Hardy trees and shrubs, especially those with showy blossoms, also occupy a higher position than they ever did before.

The rise of the Daffodil, too, must not be passed over, and the Rev. J. Jacob would tell us that Tulips, thanks to the Darwins and May-flowering varieties, are becoming increasingly popular again while in both fruit and vegetables great strides have taken place. This list might be indefinitely extended, but the Editor's blue pencil is still a power in the land, so I will now bring my few remarks to a close. W. TRUELOVE.

SILVER TROPHY FOR AMATEURS' ROCK GARDENS.

As already announced in our pages (see July 27, 1912, page 373), the Council of the Royal Horticultural Society will offer a silver trophy, presented to them by Mr. Clarence Elliott of Stevenage, for an exhibit of alpines and other plants suitable for a rock garden. These are to be arranged with rockwork in a space 6 feet by 3 feet, and the competition is to take place on May 14. The trophy, to be known as the Clarence Elliott Trophy, illustrated herewith, has been designed and carried

THE CLARENCE ELLIOTT TROPHY, OFFERED TO AMATEURS FOR ROCK GARDEN PLANTS.

out by the well-known sculptor Mr. Allan G. Wyon. It is valued at 21 guineas, and is to be won outright. The object of the donor in presenting the trophy for competition among amateurs is to stimulate interest in rock gardening. The beauty of arrangement of rocks and plants, together with the suitability of the plants employed, are points for special consideration. Full details of the rules governing the competition will be found in the forthcoming Book of Arrangements issued by the Royal Horticultural Society, Vincent Square, Westminster, or they may be had from Mr. Clarence Elliott, Six Hills Nursery, Stevenage, Herts.

On page 19 of this issue readers will see that we are offering valuable prizes for the best rock gardens, and we hope that those who have gardens of this kind will send us photographs of them.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SWEET PEAS (*E. M. T.*).—We should certainly keep the Sweet Peas, but they will be far better outside in some position where they can be readily protected from birds, snow or torrential rain, and in no circumstances must frost be allowed to crack the pots. As a matter of precaution we should sow again about the middle of February. Your management must have been good to secure such an excellent result from the seeds sown.

LIMING THE SOIL (*W. C. B.*).—On your soil, which is light and sandy, except for the purpose of killing pests, chalk in a powdered form is the best to use instead of either slaked lime or quicklime. It should be spread at the rate of half a bushel to one bushel to the square rod now, and forked in in the ordinary course of digging. Crops may be planted immediately afterwards. The cost depends largely upon the distance the stuff has to be carted from the pits, but there are probably pits in your near neighbourhood.

THE BEST KNIPHOFIA (*Iris*).—For purposes of display you cannot do better than grow K. aloides in variety, and by embracing the typical form with K. a. glaucescens and K. a. nobilis, a rather long flowering season would be secured. The first named is about four feet high, the others range from 5 feet to 7 feet, and are superb when well established. Perhaps one of the best is John Benary, most brilliant in colour, but somewhat more expensive that the others named. All are vigorous growers and very free-flowering. We do not know of an entirely cattle-proof Rose, and the more prickly sorts are as liable to get eaten as the rest. Unfortunately, cattle do not wait till the spines are fully developed, but often take the shoots in the young state; hence the difficulty. As they are 4 feet distant from the fence, however, we should imagine all but the more straggling of the branches would be safe.

GROWING NEW ZEALAND FLAX FROM SEEDS (*Mrs. C.*).—The New Zealand Flax, Phormium tenax, may be raised quite well from seeds, providing they are sown after they are ripe. If you sow them at once in well-drained boxes or pans, in a compost of equal parts of peat, leaf-mould and sand, in a temperature of from 50° to 55°, they ought to germinate during early spring. Do not cover the seeds deeply; one-eighth of an inch of soil will be quite sufficient for the purpose. After sowing, water well, and cover each box or pan with a sheet of glass and a sheet of brown paper. These will help to keep the soil moist without undue applications of water. When the seedlings are large enough to handle, prick them out in boxes 2 inches apart each way, and when well established place in a cold frame. Allow them to remain there until the following spring; then transplant them into a bed of rich loamy soil of a moist nature. Plant 1 foot apart, and the following spring transfer them to permanent positions, which should be moist rather than dry. The fibre from the leaves has been experimented with for various purposes in this country, but so far the plant has not been cultivated for commercial purposes.

LILY OF THE VALLEY AND PÆONIES (*Nesta*).—With your shallow soil—6 inches on chalk—we cannot hold out much hope of permanent or even temporary success with the first named, and the latter we do not advise you to plant at all. There is no great difficulty in cultivating Lily of the Valley with an assured depth of at least 15 inches of good soil, though high excellence would only ensue with moisture next the roots. If these were not present, the best varieties would soon dwindle to the size of those seen in woodland places; hence our advice is to considerably deepen the soil by excavating the chalk and supplying good garden soil in its stead. As you only require a small bed, the preparation suggested would not be a serious item. Single crowns of the Lilies may be planted 6 inches asunder, and small clumps of not more than six crowns each—larger are not recommended—at 9 inches apart each way. The Berlin and Victoria are among the larger-flowered varieties, though size is very much a matter of soil and generous cultivation. The Pæonies would require at least 2½ feet of good soil. They root deeply and are very voracious; hence need quite rich soil also. The old double crimson European Pæony is an

exception and roots less deeply than the taller-growing Chinese forms, and for this 2 feet of good, well-cultivated soil would suffice. The plants should be set alternately at 2 feet asunder.

THE GREENHOUSE.

INJURY TO AZALEAS (*Pepper*).—There is no insect or fungus on the Azalea to account for its condition. There are aphides, &c., in the house, however, with it, which call for fumigation. The Azalea has died from improper watering. Possibly the repotting was done so that the water drains through without wetting the whole of the soil, a frequent and fatal cause of trouble with these plants. In any case, we are sure that either a lack or a plethora of water is the cause of the plants' condition.

POINSETTIAS A FAILURE (*A. M.*).—There was nothing about the plant sent to indicate any reason for the whole batch behaving as they have done, but we should say that in all probability the plants received some severe check just as the bracts were developing. What that was likely to be we must leave for you to find out. It may be a chill, an insufficient supply of water, or too strong a dose of stimulants. Poinsettias may be grown coolly during the summer, and then they readily respond to a little heat in the autumn.

VARIETIES OF CHRYSANTHEMUMS FOR EXHIBITION (*Exhibitor*).—For showing in Class 1 you should grow plants of Master James, Evangeline, Mrs. Luxford and Rose Pockett; for Class 2, Master James and Evangeline; for Class 3, Mrs. Luxford; for Class 4, Ladysmith, Ceddic Mason, Mary Richardson and Measa; for Class 5, F. L. Vallis (two), White Queen (two), Mrs. Marsham (one) and Mrs. L. Thorn (one); and for Class 6, Mrs. William Knox and Mrs. R. F. Felton. All the varieties named flower fairly early, are free, dwarf in habit and carry good foliage.

CARNATION DISEASED (*M. W.*).—The death of the shoots of the Carnation is due to the attack upon them of a species of Fusarium (apparently undescribed). This fungus seems to gain an entrance into the shoots which have been cut back after flowering. In every case among those you send the trouble originated in the snag left on cutting back, and spread so as to check the water supply to the young lateral which was pushing, and caused its death. We suggest that you should cut back the growths to the node, and not leave the inch or so of snag beyond, for that will more rapidly aid the plant in healing the wound you make, and so reduce the chance of infection. This will greatly check the spread of the trouble. All diseased pieces should be cut away and burned as soon as they appear, so as to check the distribution of the spores, and keep the air of the house as dry as you conveniently can.

CATTLEYA GIGAS NOT FLOWERING (*T. F.*).—We have heard of a shy-flowering variety of this beautiful species being in commerce, but cannot vouch for its accuracy. The probable cause of the non-production of flowers is due to some cultural error. When brought under cultivation, each plant requires as much light as possible without injury to the foliage, while air is also an important item and must be admitted on every favourable opportunity. Suspend the plants about two feet from the roof-glass, and as the pseudo-bulbs near completion more light and air can be allowed, so that they are thoroughly ripened. Such subjects as Cattleya gigas and C. aurea are often grown in too dense shade, and are in consequence shy flowering. To produce flowers the plants ought not to be too green. To the amateur this is a healthy sign, but the experienced grower does not mind if his plants present a somewhat yellow appearance, because he is more sure of getting flowers. In their native habitat the best blooms are always found on plants well exposed to the sun, while on plants growing in the shade the blooms are less numerous and of poor quality.

PLANT FOR NAME AND TREATMENT (*J. S.*).—The name of the specimen sent is Crassula arborescens, a native of South Africa. It is quite possible that your plant will be all the better for a larger pot, but do not disturb it before April. It will thrive in a compost mainly consisting of loam, with an admixture of leaf-mould or peat, broken brick rubble and sand. From its succulent nature it needs to be kept moderately dry during the winter months, and an excess of moisture may be the cause of your plant losing some of its leaves, while, on the other hand, the old and exhausted ones may have died off naturally. It needs to be kept safe from frost. In potting, effective drainage must be ensured and the soil pressed down moderately firm. It must during the winter be kept safe from frost. If you desire to increase your plant, shoots such as the specimen you sent for naming will make suitable cuttings, which will strike root without difficulty if put into well-drained pots of sandy soil and care is taken not to overwater them. At the same time, the soil must be kept moderately moist. They will strike root well in a light position in a window.

TREATMENT OF GERBERAS (*Enquirer*).—In your district (Cheshire) you had better resort to pot culture and greenhouse treatment entirely, save, perhaps, for the hot summer months, when you might plunge the plants in their pots in beds to flower. In favoured districts near the coast the plant is reliably hardy in the open without protection, while in Surrey, Middlesex, Cambridge and other places, if given the shelter of a greenhouse wall and a light covering in winter-time, it does fairly well. As a native of South Africa, the plant revels in heat and, in our experience, moisture too. Some plants that had been exposed to the winter in pots and got into a bad way recovered in an incredibly short time when repotted and placed in the Cucumber-house where heat and moisture prevailed. The spring is the best season for potting them, as at that time the plants resume active leaf and root growth. No; the plants should not be kept "in fairly small pots," whatever that may imply, but be given liberal root-room. With good greenhouse treatment plants of a few months old are capable of producing a solitary flower-head, and for the first year pots 4½ inches across will suffice. In the second year afford them 6-inch pots. Give them a fairly rich compost of loam, leaf-mould and sand, with some well-decomposed stable manure at the rate of one-fifth part of the other materials. The manure should be rubbed through a sieve of rather fine mesh.

ROSE GARDEN.

PROTECTING BRIARS FROM THE STEM-BORER (*F. C.*).—This pest can be stopped by painting the ends over with painter's knotting, and also with liquid grafting-wax.

CURIOUS GROWTH IN ROSES (*Tofby*).—The curious growths on the Rose appear to be galls produced by the attack of the Rose canker fungus, Coniothyrium Fuchelii. You did quite right to cut the stem out, and it would be well also to paint the cut end of the stem with lead paint or tar.

STRONG-GROWING ROSES (RUGOSA STOCK) (*North*).—We should say the so-called "shrub" upon which some Roses are budded is the rugosa stock, or Japanese Rose. This variety is capable of being grown with tall stems, and is largely employed by foreign growers and also some English nurserymen for standard Roses. The only objection to it is that the stems are not very straight, but Roses budded upon it make remarkably large heads.

TRANSPLANTING BUDDED STANDARD BRIARS (*J. G.*).—It would be best to leave the Briars where they are until next autumn. They would do much better than if moved this season. Frau Karl Druschki is a good Rose to grow on its own roots. Rambler Roses of the wichuraiana type planted last autumn need not be pruned back in the spring, save just the extreme end of the shoots, but the multiflora tribe are best cut back to about three feet.

SELECTIONS OF ROSES (*Rosary*).—Eight well-varied Polyantha Roses of similar growth to each other would be Jessie, Orleans Rose, Katherina Zeimet, Cecile Brunner, Canarienvogel, Petite Constante, White Cecile Brunner and Leonie Lamesch. The four best China Roses are Comtesse du Cayla, Laurette Messimy, Fabvier and Ducher. These will grow from 2 feet to 3 feet in height. The 3-feet standards would be about right to plant behind them. We should prefer one variety in a row, and eight best kinds would be Caroline Testout, Mme. Ravary, Prince de Bulgarie, Pharisäer, General Macarthur, Gustave Grünerwald, Mme. Abel Chatenay and Chateau de Clos Vougeot.

PRUNING WICHURAIANA ROSES (*H. G. B.*).—We are afraid you have pruned the plants too severely. This tribe are not like the multifloras, which should have most of their old wood removed, but are best allowed to retain some of the two and three year old growths, and by so doing check the tendency to premature new growth that seems inherent in them. If these two and three year old growths have their laterals cut back hard in March, they will yield splendid trusses of blooms from them. Too frequently the summer growths are soft, and unless produced in early summer will not be so serviceable as the two year old shoots. We think you had best leave the young growths untouched, but smother them with Bracken or straw should severe weather come. If these get injured, you need not fear that the plants will not send up plenty more next summer. Spread the growths out all you can and do not coddle them at all. If young growths are injured by cutting them back to one eye, they will break out again and bloom as though nothing had happened.

FRUIT GARDEN.

PEAR TREE AND FRUIT-SPURS (*B. J. L.*).—The swollen shoots are not marks of disease in the tree. They are the shoots (spurs) which bore fruits this season, and you evidently had a good crop. There is nothing to fear from their presence.

PRUNING FRUIT TREES (*W. G. O.*).—All you have to do is to prune back all the side shoots of this year's growth, the strong ones to three buds from their base (meaning from the branch from which they emanated) and the weaker ones to two buds from their base. The terminal shoot of each main branch should be pruned back to the extent of one-third its length.

PEACH TREE FAILURE (*Troubled*).—There are, we think, two mistakes in your treatment. In the first place, top-dressing. Instead of taking an inch of the old soil off, you should have taken as many inches off as would expose a good body of roots, even if you had to take 6 inches or 7 inches off, and then lay a top-dressing on the top of these roots, 6 inches deep, of the best Peach soil, ramming it down firmly while it was fairly dry. This new soil this spring and summer will be filled with a great mass of new roots, which will carry the crop safe through, with the aid of surface mulching and stable manure in summer and the careful application of weak liquid manure. The other mistake you made was in applying a top-dressing of nasty pig-manure to the border. Peach trees do not like this cold, raw stuff over their roots in winter. Be careful not to let your tree get dry at any time, winter or summer. If you do not know what is the best soil for Peach trees, let us know and we will help you further.

KITCHEN GARDEN.

VEGETABLES FOR GENERAL USE (*Enquirer*).—This is a matter of taste on which opinions differ widely, and probably no two persons are like-minded in the matter. We give a list below of the best kinds of vegetables usually grown in English gardens, from which we hope you may be able to make an agreeable selection. We have denoted those kinds we would prefer to grow, if restricted to only twelve kinds, by asterisks. Beans—Broad, French and Kidney—we place as one kind, only for the purposes of this list. Artichokes (Jerusalem and Globe), *Asparagus, *Beans, Beetroot, *Broccoli, *Brussels Sprouts, *Cabbage, Celeriac, *Celery, *Carrots, *Cauliflowers, Coleworts, Seakale, *Leeks, Vegetable Marrow, Mushrooms, *Onions, Parsnips, *Peas, *Potatoes and Turnips.

MISCELLANEOUS.

STAINING A SUMMER-HOUSE (*H. E.*).—You cannot do better than have your summer-house stained a dark oak or mahogany. We do not think that paint would be suitable with the Heather-thatched roof.

MALT-DUST AS MANURE (*W. E. W.*).—Malt-dust is a valuable fertiliser, and if it can be obtained cheaply is well worth using. Like all organic matters, it should be applied some time before it is actually wanted by the crop, so as to allow time for the soil bacteria to act upon it. Either winter or early spring would do well, and it should be dug in, not used as a top-dressing, except on pots.

COLLECTIONS OF VEGETABLES (*Runktop*).—The Royal Horticultural Society's book, "Code of Rules for Judging," gives the following points value to the vegetables you mention at the exhibition held in mid-September, these being the maximum, which are very seldom attained: Collection A.—Potatoes, 8 points; Celery, 8 points; Carrots, 8 points; Turnips, 6 points; French Beans, 7 points; Cauliflower, 8 points; Tomatoes, 8 points; Onions, 8 points; Cucumber, 7 points—total, 68 points. These figures prove little or nothing. They only suggest a standard maximum figure as an aid to pointing.

GRASS FOR PEAT LAND IN VANCOUVER, B.C. (*W. S.*).—Holcus lanatus has been found to be one of the best grasses for covering poor peaty ground in Western North America, and preparing the way for more profitable kinds. One or two seasons of this grass are, as a rule, quite sufficient, for it is not a remunerative kind to grow. Its feeding properties are said to be good once stock take a fancy to it; but horses prefer other kinds when obtainable. Although, if left unattended, it is likely to crowd out better kinds, it may be killed out fairly easily by mowing it down before the seeds set, thereby preventing the self sowing of seeds. If you write to the Department of Agriculture for Canada, you will probably be able to obtain an expert opinion on the best kinds of grass to follow the Holcus.

A WATER-LOGGED FIELD (*W. L. S.*).—Your only chance of turning your field into a profitable garden is to have it properly drained, even if you have to obtain permission to lay a new main drain, with the proper fall to the outlet three-quarters of a mile away. You would find this considerably cheaper and better than mounding up the ground as you suggest. A garden made of small hillocks and catchpits would be both unsightly and dangerous, while the expense would be very great. Your new drain could be started 3 feet or 3½ feet below the surface, and branch drains could be connected with it, starting at 1½ feet below the surface. This would ensure the proper draining of the top soil, and you would not need to introduce much new material, for by trenching the ground 1½ feet deep the various kinds of soil would be broken up and mixed together, making it suitable for most of the plants you might wish to grow. In addition to being difficult to work in wet weather, crops planted on very wet ground are subject to injury by spring frosts; therefore everything is against successful gardening under the conditions you describe. If you lay new drains, be careful to cover the pipes with stones to keep out dirt.

WOODLICE AND VIOLETS (*A. D. M.*).—Woodlice are particularly fond of retiring during the day into some dark, dry spot, where they are out of sight till darkness sets in, and they recommence their work of mischief. This habit may be taken advantage of, in order to trap them in a wholesale manner, thus: Small flower-pots filled loosely with some dry moss or hay can be laid on their sides where they most congregate, and if examined during the day these pests will be found hiding therein. The quickest way to destroy them is to examine the contents of each pot over a pail containing some boiling water, as the pests quickly drop when disturbed, and some may otherwise escape. Two pieces of board, one laid on the top of the other in such a manner that there is just enough space for the woodlice to get between, will also trap many. Besides this, they probably have some favourite haunts at the foot of the wall, and, if so, a few kettlefuls of boiling water poured therein will destroy considerable numbers. Potatoes or Turnips hollowed out and placed on the ground hollow side downwards will also prove very attractive to them. They can then be killed by dropping them into boiling water. Paris green, a preparation of arsenic mixed with sugar and barley-meal, is said to be very effective in destroying these pests, but we have always found the trapping of them to be effectual if persistently carried out.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Winter Greens Running to Seed.—The effect of the mild weather so generally experienced until quite recently has had a remarkable effect on winter greens. At the present time we have Savoy Cabbages and Drumhead Kale almost in flower, while even the hard buttons of Brussels Sprouts have burst and are pushing out flowering shoots. So far Chou de Russie and Purple Sprouting Broccoli have not misbehaved in this way.

Old Cyclamen Plants.—Now that the Cyclamens are once more adding their quota of beauty to the conservatory, it may be interesting to raise the question of their longevity. Owing to the general practice of growing them for one season of flowering only, it may be difficult to secure reliable data on this point. We know personally of one plant that is at least twenty-five years old, and which still gives annually a good display of flowers. It is grown in a cottage window, and is a sweet-scented form of C. persicum. Can any of our readers beat this?

New Secretary for Shrewsbury Show.—We understand on good authority that Mr. W. G. Brazier has been appointed secretary of the Shropshire Horticultural Society, under the auspices of which the great Shrewsbury Show is held. Mr. Brazier has been connected with the firm of Messrs. Adnitt and Naunton, the late secretaries, for twenty-five years, and will, therefore, be well versed in his new duties. There were nearly fifty applicants for the post. We take this opportunity of wishing the new secretary every success and the society continued prosperity.

Rose Dorothy Perkins.—This Rose is almost an evergreen. In ordinary seasons the leaves remain on in great numbers throughout the winter; but our own plants, and others we see in gardens wide apart, are almost as green now as in summer. Last autumn, no doubt owing to the dull weather of the summer, the leaves were very green, also the bark of the branches; but in the autumn of 1911 the leaves and the bark were of a bronze colour. The wood is none too ripe now, and, as there is plenty of it, cultivators would do well to thin out old branches forthwith where there is overcrowding.

A Pretty Outdoor Effect.—Quite recently a pretty outdoor effect was noted from a group of a red-stemmed Cornus carpeted with Winter Aconites, the contrast between the red and yellow being very marked, especially when the sun was shining. Such an effect may be easily reproduced, for both plants are cheap and easily obtained, while they thrive almost anywhere. By selecting one of the variegated-leaved Cornuses, such as alba variegata or Spathii, the double advantage is obtained of having a decorative winter group and one which is showy throughout the summer. In some instances the idea may be varied by using Snowdrops or Chionodoxas for the groundwork.

The Caucasian Scabious.—This is undoubtedly one of the finest hardy perennials in cultivation, and as it will thrive and flower freely in almost any soil or situation, it can be strongly recommended. It produces large heads of pale lilac flowers 3 inches to 4 inches across, while the stems are long, which renders it also an ideal subject for cutting purposes.

The Glastonbury Thorn.—In regard to this remarkable Cratægus, which is still flowering in many gardens, it is interesting to recall the legend associated with its past history. The Glastonbury Thorn is alleged to be a descendant of Joseph of Arimathea's staff, which grew when he stuck it in the ground at Glastonbury. This tree is a variety of the common May or Hawthorn, which usually flowers about New Year's Day; the date of flowering is, however, largely dependent on the season.

Sowing Early Peas.—Although it is rather early yet to sow Peas in the open garden, it may be useful to pass on a hint that was given us some years ago by the late Charles Foster. It is to cover the seeds very lightly instead of the usual 1-inch or 2-inch covering that is desirable for later sowings. Also, if the soil is mainly clay, some sand or old potting soil placed under and over the seeds will do much to prevent them decaying. To sow Peas very early deeply in wet, cold soil is to invite failure. The above hint also applies to early sowings of Sweet Peas in the outdoor garden.

Swede Turnips for the Dining-Room.—It is difficult to understand why the small, garden forms of the Swede Turnip are not more extensively grown for human consumption. Just now we are enjoying some excellent little roots that have been stored in soil in a cool shed since November, and much prefer them to the watery white Turnips that are so largely used. We believe that the Swede Turnips contain the greatest amount of nutrition. In making out the seed order, include a small packet of garden Swede Turnips, give them good soil so that growth is rapid, and then test them with the white Turnips next winter.

A Rare Shrub (Elliottia racemosa).—Concerning this rarity Mr. W. J. Bean, in his notes on "New and Rare Shrubs" now appearing in *Country Life*, says: "Unless, as one hopes, some unsuspected colony exists in a wild state, it seems likely that this shrub will meet the same fate as the great auk, and disappear as a living thing from the earth—to future generations only known by museum specimens." Apparently very few plants are known to exist in a wild state, and these, like cultivated ones, seem to have lost the powers of reproduction by seed. It is a native of Georgia, U.S.A., and only two plants are at present known to be alive in Europe, both at Kew. A descriptive article and illustration of this extremely rare plant, belonging to the Heath family, appeared in our issue dated September 30, 1911.

CORRESPONDENCE.

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

Lonicera fragrantissima in a Fifeshire Garden. This extremely useful winter-flowering Honeysuckle has given us its pretty cream-coloured flowers for the last two years in the third week of December. It remains in bloom for a long time, and on fine days gives off its delicate fragrance quite freely. Planted three years ago against a south wall and fairly well sheltered, it is now forming a nice plant. It is easily propagated from cuttings inserted in a cold frame in August, and should be in every garden where winter-flowering shrubs in the open are in demand. —J. W. E.

Rose Sarah Bernhardt.—It is rather amusing to read some of Mr. Molyneux's notes on the newer Roses. I do not consider he is justified in saying, as he does on page 9, January 4 issue, that "the trade appears to have overlooked this Rose," just because perhaps he does not find it mentioned in catalogues that he has. I know for a fact that two well-known firms have listed it ever since its introduction by Dubrieul in 1908, and I myself have exhibited it for the last four summers. I have not only grown it, but I have a salmon-coloured sport from it that was budded in 1910.—DANECROFT.

Rhododendron nobleanum.—Among large-leaved evergreen Rhododendrons, this is the first to flower. The blooms sometimes open in November, and frequently, during a spell of mild weather from December to February, large bushes make a nice display. The mild weather of the past month has resulted in an exceptionally brilliant display of flowers on two large groups of this variety in the Rhododendron Dell at Kew. The illustration, prepared from a photograph taken on New Year's Day, of a portion of one of the bushes will give readers some idea of its beauty. The plants form large bushes, 10 feet to 15 feet high. The flowers are brilliant rose, changing with age to a paler shade. R. nobleanum is a hybrid, the result of a cross between R. arboreum and R. caucasicum. It is readily propagated by grafting or layering. Flowering naturally in midwinter, R. nobleanum is a valuable subject for the greenhouse, the blooms opening at Christmas without the extra heat necessary to force most hardy subjects into flower by that date.—A. O.

RHODODENDRON NOBLEANUM IN FULL FLOWER IN THE DELL AT KEW. THE PHOTOGRAPH WAS TAKEN ON NEW YEAR'S DAY.

The Tulip Tree in America.—In the issue of THE GARDEN of December 28 I notice a letter on the Tulip Tree, where it is said it is called the Saddle Tree in the United States. In the Hudson River Valley, where the tree is found in numbers in the uncared-for woods, it is known as the Tulip Tree. Give it room and it will grow evenly and straight. It bears transplanting well, and is a very rapid grower. One I have in mind grew fully 60 feet in fourteen years. It takes its name from the shape of its flower, which resembles the Tulip. It is only attacked by a scale insect, which can be checked. In an autumn of moderate rain and plentiful sunshine, the first touch of frost turns it yellow, and it soon gains its colour, which seems like solid sunshine.—U. A. S.

Fatsia japonica.—On page 635, issue December 21 of THE GARDEN, "C. T." refers to this plant as grown in the open air in the Highgate district, North London. In the South of Hampshire the Fatsia does remarkably well in the open border. Your correspondent says that the bulk of the plants he has noticed in gardens are leggy, with only a few leaves covering the top portions of the stems, and they were never left to face the winter. If lifted or retained in pots, no doubt the plants would frequently lose some of the basal leaves. He may, however, be interested to learn that even in this part of Hampshire, where the plants grow in the open borders undisturbed for many years, quite a number of those grown in very hot positions lose many basal leaves, and so there are many leggy specimens to be seen. In more sheltered corners, not very hot, there are spreading, vigorous plants 7 feet through and 5 feet high, with leaves touching the ground. The many burrs this season are the result of the hot weather of 1911.—G. G.

Lewisias Cotyledon and Howellii.—In answer to Mr. Arnott's note last week, page 18, I can only say that my personal experience is short. I saw these in flower in another garden two years ago for the first time, and, carried away by their distinctive beauty, purchased a lot from their native home. These, as I before stated, came to hand last November, arriving in a very bad condition through defective packing. As we had just constructed a little moraine, three of each were planted on the very top, just where the south-west storms—turned aside by striking the front of our house—expend their force with double fury, and yet they went through the winter and faced the terrible storm of last spring, which almost killed a Yew hedge adjoining, quite smashed up and killed a glorious specimen of Cytisus pallidus alongside, and ruined some fine little specimen miniature conifers near them. The Lewisias smiled happily through it all. Other plants were put on a wall garden in ordinary stony soil, and the rest potted. All have lived and grown as heartily as any plant we know could have done. We expected that some of these much-travelled, bedraggled plants would have died; but no, they have simply gone on, both inside and outside alike, though they have not yet got up courage enough to bloom. This I look for next season. From the appearance of the roots and the experience of one season, I should say that poor, stony soil of a good depth—say, 2 feet to 3 feet at least—and a sunny, warm aspect are necessary to their successful culture. Given these, I should not fear to plant them almost anywhere. Of course, I may yet be startled by a change in their behaviour. So far I am quite satisfied, even though I have not yet had a single bloom; but I am no longer young, and so have learned to be patient. Our situation is not a good one for delicate things, though many of our friends who visit us in summer think it is. While mild as regards frost, the whole village is swept by the storms from the south-west to such an extent that standard Roses cannot, and even bush Roses can hardly, exist, while few evergreen shrubs can be kept alive in gardens of the villagers. Again, our soil is a moist, retentive one, and growth goes on until the frost comes and cuts things down. We simply cannot grow very many things I see in our own Lakeland gardens and in the gardens on the north side of the Solway, and of many others we can never emulate the glorious specimens I often see. Of course, our collection is a remarkable one, but many of the plants are only kept in stock by the expenditure of much thought and care.—J. STORMONTH, *Kirkbride, Carlisle.*

SOME GOOD CENTAUREAS

1. "Bride."
2. "Bridegroom."
3. "Bridesmaid."
4. "Honeymoon."

Abutilon vitifolium in Ireland.—This shrub appears to be quite hardy here, some eighteen miles from the sea and 250 feet above sea-level. I send you a photograph of one of my plants, taken when in full bloom. We recently had 17° of frost, but it escaped unhurt.—H. D. M. BARTON, *The Bush, Antrim.* [Unfortunately, the photograph, which depicted a very good plant, was not sharp enough for reproduction.—ED.]

Fabiana imbricata.—How strange it is we do not see more plants of this Heath-like subject in the garden! When we consider how freely it grows and the abundant manner in which it blossoms annually, the wonder is emphasised. Eight years ago I put a small plant in a border only 10 inches wide and 18 inches deep next to a brick path at the foot of a south wall, where it has grown luxuriantly and has given extremely heavy crops of its pure white blossoms yearly without exception. If short pieces of the current year's growth are broken off in a downward direction in August or September and dibbled in sandy soil in a cold frame, every piece will grow and quickly form a stocky plant. I do not say this plant will succeed in the open in any situation or soil, but, given a warm site, such as a south wall, in sandy or peaty soil, it will quickly establish itself as a favourite in May and June when in flower and without occupying much space.—E. M.

Winter-flowering Plants.—The finest flowering plant here at present is Laurustinus, many of the bushes of which are white with the bloom. The south side of a hedge of this plant is also covered with flowers. It does not give such a fine display every year, but the flowers, if not always so soon out as this season, seldom fail to make a fine display somewhat later. Very fine, too, is a variety of Arbutus, of which there are several distinct forms here, varying in foliage, flowers and fruit. The fruit is usually ripe at this time of the year, but it is still green now. Hellebores are consistent winter bloomers here, and, like other things this season, are generally late in flowering, though the niger varieties are earlier. Our earliest, of which many dozens were used last month, is a greenish yellow named H. odorus, lovely for table decorations, and quick to follow it is H. atropurpureus, also of value for the same purpose, but not quite so refined. Then the winter-flowering Honeysuckles are a great stand-by, but it is essential that strong and long shoots be encouraged, the short twigs being far inferior as decorative objects. A not infrequent late winter flowerer is Piptanthus nepalensis, the young shoots of which and the foliage are equally striking. The early-flowering Prunus Davidii and its white variety may also be mentioned, and Rhododendron dahuricum, which always begins to flower in January. Of berried plants, besides the Cratægus Pyracantha mentioned (page 639), there are a few good things in Cotoneaster (the small tree), C. frigida, C. Simonsii (a very gay and easy-to-grow plant) and the less showy C. microphylla. Pernettyas, where they succeed, are also invaluable. One of the prettiest shrubs of the present season was a yellow-berried Yew, and it was rather extraordinary that while missel-thrushes and other frugivoræ fed on the common red, they abstained from the yellow. Daphne Mezereum, with its wealth of sweet-scented purple flowers in January, is an object of much beauty.—R. P. BROTHERSTON, *Tyninghame, Prestonkirk, N.B.*

FORTHCOMING EVENT.

January 21.—Royal Horticultural Society's Meeting and Exhibition.

GARDENING ACROSTICS.

As announced in our issue for December 14, 1912, we are publishing a series of eight acrostics based on gardening or simple botany. Prizes of £3, £2 and £1, respectively, will be awarded to those sending in correct solutions of all the acrostics. The names of those who have correctly solved the problems will be published from week to week, and the final list of prize-winners in our issue of February 15. In all cases the Editor's decision must be final. The solution to Acrostic No. 5, which appeared last week, will be published next week, and the solution to No. 6, which is printed below, will be published in our issue dated February 1. For full rules governing the competition readers are referred to page 623 of our issue for December 14, 1912.

DOUBLE ACROSTIC No. 6.

Morphologically only a leaf; now changed in shape and function.

My firsts are the top of my whole, and my finals are my whole standing on its head.

1. A process in plants similar to digestion in animals.
2. I scintillate when I get my South African sunshine.
3. Where was Pope's celebrated villa?
4. A sunk fence.
5. What is the best way of dealing with a Kirke Plum with a dense blue bloom upon it?
6. An old rival of the Tulip, which, like it, came westwards *viâ* Constantinople.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than January 25. Mark the envelope "Acrostic" on the upper left-hand corner.

SOLUTION AND NOTES OF ACROSTIC No. 4.

"PHILIP MILLER."

Foreigners of his day gave *Philip Miller* the title of "Hortulanorum Princeps" ("Johnson's English Gardening," page 193.)

* 1.	P	AL	M
† 2.	H	ORTULAN	I
‡ 3.	I	DEA	L
§ 4.	L	OBE	L
‖ 5.	I	NVOLUCR	E
¶ 6.	P	APAVE	R

* Like "Fern," this word is often loosely used. † "O Radix Jesse" was the anthem sung by the Hortulanus at certain great feasts in Monastic times. It was one of the seven "Roman or Gregorian Great O's." The first is still marked in the Church of England calendar on December 16 (page 15 in Amherst's "A History of Gardening in England," second edition). ‡ Ideal. Glenny, in his "Properties of Flowers," always pictured an ideal flower which florists were to work for. § Lobel, or, more correctly, l'Obel, was botanist to James I., and keeper of Lord Zouche's garden at Hackney. Famous for his system of classification. (Arber's "Herbals," pages 78 and 79.) ‖ In botany the green bracts surrounding a composite flower are called an involucre. ¶ Papaver—Barley, Wheat and Poppies formed the garland of Ceres. As opium, much used medicinally.

SOLVERS OF ACROSTIC No. 3.

CORRECT solutions of Acrostic No. 4 were sent in by the following: "Leander," "Ping," "Judith" and "Penwarne." This week we are publishing a much easier acrostic, and we wish to inform readers that in the event of no one solving all the acrostics, the prizes will be awarded to those who solve the greatest number.

*** *The names of those who have correctly solved No. 4 will be given next week.*

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. For rules governing this competition see issues for January 4 and 11.

COLOURED PLATE.

PLATE 1463

SOME NEW CENTAUREAS.

During recent years visitors to the principal horticultural shows in various parts of the country have had an opportunity of seeing the new forms of Centaurea, some of which are shown in the accompanying coloured plate. It is to Messrs. Jarman and Co. of Chard, Somerset, that we are indebted for these charming varieties. For many years past they have been working with and improving these flowers, which, owing to their long stems and graceful poise, are admirably adapted for use in vases and epergnes when cut. In this condition they last good for a long time, which is an additional point in their favour. The colour shades found among them are very delicate indeed, and, unfortunately, owing to difficulties in reproduction, these are none too well shown in the coloured plate. The cultivation of these Centaureas, or Sweet Sultans as some delight to call them, is quite simple. They are annual plants, and consequently the seed may be sown in the open garden where the plants are intended to grow and bloom. An open situation and well drained, rather light soil seem to suit them best. The seed should be sown thinly during April, and as soon as the seedlings appear steps should be taken to protect them from slugs, which are very fond of them. The dusting of soot or lime between, but not on, the seedlings is a good deterrent. At an early stage of their career the seedlings should be thinned to 1 foot apart, and as soon as they are tall enough to require it, support in the form of light, branching sticks, well thrust into the ground, should be afforded.

THE KITCHEN GARDEN.

FORCING SEAKALE.

TO force Seakale successfully, good, strong, well-ripened crowns are indispensable, and this has been a good season for obtaining suitable crowns. The best way is to grow a supply for forcing from thongs or root-cuttings every year, getting them rooted in the winter and planted out on a well-prepared plot of ground as early as possible, so that they have a long season of uninterrupted growth.

As soon as the leaves wither and can come off easily, crowns may be potted up in 9½-inch pots, putting about seven or eight crowns in evenly and filling up with soil firmly; then place on a stage or floor in a dark room where the temperature is not less than 60° to 65°. It is well to cover over with an inverted pot. This not only increases the darkness, but keeps a moist atmosphere and wards of draughts from the opening and shutting of doors. A supply like this can be easily kept up by putting in a number equal to the demand about every ten days. I have found, after many years of experience, that a dark cellar or room underground, with a pipe or pipes running around, is the most suitable spot for forcing Seakale, also such things as Chicory and Dandelion, and likewise for starting Mustard and Cress. Mushrooms do exceedingly well on the ground floor of such structures. Of course, quicker and better results are obtained later in the season, say, this month. During November the forcing will take four or five weeks, but as each week rolls on the forcing takes less time. The Kale should be cut as soon as ready, that is when 6 inches high. Nothing is gained by leaving it a day after it is ready to cut. It should be cut off with a heel, *i.e.*, a slice of the old crown; this keeps it together and fresh till conveyed to the kitchen for use. Another important factor is that Seakale should be cooked as soon after it is cut as possible, to bring out its best flavour and crispness. By growing in pots much work is saved, as on wet days a number of pots can be filled and stored, and a handbarrow-load conveyed to the forcing-chamber in a few minutes at any time. W. A. COOK.

POTATO WHITE CITY.

AMONG maincrop Potatoes of recent introduction the variety known as White City deservedly occupies a high position. Introduced in 1909 by Messrs. Sutton and Sons of Reading, it was not long in finding its way into many of the best gardens in the country. Although last season was by no means favourable for the cultivation of Potatoes, White City behaved splendidly, and the illustration shows a crop of 57½lb., or just over one bushel, from 3lb. of sets. This may not be a particularly heavy crop, but only ordinary cultivation was adopted, and nothing whatever in the way of extra manuring or layering of growths was done. Practically all the tubers were large enough for use. In quality White City leaves nothing to be desired, the tubers when cooked being white and flowery. H.

POTATO WHITE CITY, A GOOD MAINCROP VARIETY FOR PLANTING THIS SPRING.

THE ROSE GARDEN.

SOME OF THE NEWER DECORATIVE ROSES.

(*Continued from page 22.*)

Comtesse Felicie Hoyos (Soupert et Notting, 1912).—This is a good Rose. Colour, variable salmon yellow, centre rosy copper. A good grower and free-flowering. Said to be a very promising variety and an improvement on that useful garden Rose Prince de Bulgarie. I have only one plant of it, and should hesitate, therefore, to recommend it; but several growers mentioned it to me as likely to prove very useful.

C. W. Cowan (Alex. Dickson and Sons, 1912), Hybrid Tea.—What little I have seen of this Rose I liked very much. The raisers call it an improvement on Marquis Litta. Its colour is certainly more lasting, and it produces its flowers much more freely, entitling it to be called a good garden Rose, which is more than can be said for Marquis Litta. Its growth is vigorous, and the colour a good cherry carmine of the shade one sees in that beautiful Rose Souvenir de Maria Zayas. Nearly, if not quite, mildew-proof, and with a delicious perfume.

Desdemona (Paul and Son, 1911), Hybrid Tea.—A fine huge flower that opens freely, but not exactly refined in shape. I see the raisers call it a bold flower. It is that. Colour, deep pink. Its chief merit, I think, lies in its perfume, which is marked. I should say there was some Bourbon blood in its veins.

Duchess of Sutherland (Alex. Dickson and Sons, 1912), Hybrid Tea.—There are several points about this Rose that attracted me when I saw it at Newtownards. First of all, a quite noticeable Sweet Briar perfume that is certainly unusual in a Rose of this stamp and character; then its colour, although one must call it pink, had something out of the way about it that rendered the flower very pleasing. The raisers, I see, describe it as warm rose pink, with lemon shading on a white base; but that does not quite convey the colour as I saw it. However, it would be foolish of me to attempt to correct such past-masters in the art of colour description as the compilers of Messrs. Alex. Dickson's catalogue; but the Rose struck me as being of a colour that has no name, and with that bit of useful information I must leave it. It is a tall grower; the flowers are of good size and shape, and produced on good, stiff footstalks. Altogether a welcome addition.

Duchess of Wellington (Alex. Dickson and Sons, 1909), Hybrid Tea.—This is one of our best bedding yellows, and at its best a beautiful Rose, entitled to be called a yellow Killarney, although, as a rule, its flowers are hardly as large as that variety. Very free-flowering, of delightful fragrance, hardy, of good habit of growth and almost mildew-proof, I can thoroughly recommend this variety.

Duchess of Westminster (Alex. Dickson and Sons, 1911), Hybrid Tea.—I referred to this variety under "Exhibition Roses," but it should also be mentioned here. Its colour, perfume and shape are all good. The petals are large, but of rather unusual shape; but there is one point I must refer to. The buds in their early stage sometimes look misshapen, and one is tempted to pick them off as not likely to produce good flowers; but they do, and seem to recover in a marvellous fashion. It is a change to have a Rose that performs better than it promises; so many promise better than they perform.

Southampton. H. E. MOLYNEUX.

SOME LITTLE-KNOWN RED HYBRID TEA ROSES.

ONE would think by the demand for Liberty and Richmond that there were but very few Roses of a red or scarlet colour among the Hybrid Teas; but really, when one searches for them, there are quite a number. Of course, they do not preponderate like the cream, orange and pink varieties; but yet there are more than at first sight appears. One lovely variety is named

Gruss an Sangerhausen, a Rose raised by that eminent German raiser Dr. Müller, to whom we are indebted for Conrad F. Meyer and the lovely semi-double Gottfried Keller, and, I rather think, Grüss an Teplitz also, although Lambert introduced it. Some have found Grüss an Sangerhausen only a moderate grower, but with me it makes fine, vigorous shoots. Its colour is a fine scarlet, with deep red centres. The flowers are of good size, very shapely, but they droop. This

is a fault in many respects, and one not mentioned by some writers. I notice that Mr. Molyneux, in speaking of Nita Weldon, ignores this very bad habit in an otherwise lovely variety. Then Grüss an Sangerhausen possesses delicious fragrance—surely a quality too rare to be overlooked—and it has also very distinctive foliage.

Sarah Bernhardt, until this last summer, has been little seen. If any reader has room for one more Rose and does not possess Sarah Bernhardt, he should procure it at once and grow it as a big bush, looping up its somewhat willowy growths to a 4-foot Bamboo cane. Last summer I cut one of the most perfect blooms from this variety I have ever had the pleasure of seeing. It was in the early morning, before the sun had had time to make it burst open, and, my word, what a bloom it was! I can see it now, and will never forget it. There was that delightful point we love to see in our favourite flower, and one wished most sincerely there were a few more petals to make the bloom more durable, for it is little more than a single. I have grown it now some six years, as it was sent out by Dubreuil in the year 1906.

Friedrichsruh is a very dark blood red—really a grand colour—but the plant is a sprawling grower, so much so that its blooms often lie on the ground. Like M. Pernet-Ducher's exquisitely dark variety Château de Clos Vougeot, it is best seen grown as a standard, and it is a colour that would be welcome among a line of standards.

Hippolyte Burreau.—This is a Rose that is best in autumn. At that season of the year it is splendid and well worthy of a place in any garden. The colour is carmine red, shaded velvety crimson. Very sweetly scented.

Princess Bonnie is a semi-double, vivid crimson Rose of most delicious fragrance, obtained, I believe, from the now almost extinct W. F. Bennett. It is of American origin, and one that should not be allowed to drop out of our lists. When shall we have our National Rose Garden? so that many varieties could be secured from the very hard-hearted nurseryman, who finds he must delete a lot of sorts every year from his catalogue; and if Fashion does not favour a Rose, it must go.

DANI CROFT.

(To be continued.)

THE FLOWER GARDEN.

A BOLD HERBACEOUS PLANT.

(CRAMBE ORIENTALE.)

IN large gardens where space is not a consideration, this ornamental Kale is worthy of a good position. It is notoriously a strong-growing plant, requiring abundance of room in order that its immense leaves may be fully developed. Crambe orientale is one of the largest-leaved herbaceous plants in cultivation, and when seen in full bloom, carrying myriads of its creamy white flowers, it makes an imposing and showy effect. When grown in a large circular bed, as shown in the illustration, it is, perhaps, seen to the best advantage, although it is a very useful plant for filling out any odd corner in the summer months. It should be mentioned that C. orientale is a near relative of the common Seakale, and it is quite as easily grown as that well-known vegetable.

SWEET PEA NOTES.

ONE occasionally sees it suggested, even if the statement be not made in as many words, that all the most successful exhibitors of Sweet Peas now sow the seeds in cold frames in the autumn months, and that it is only the second and third raters who continue the out-of-date system of sowing in gentle heat in the spring; while the man who sows out of doors in March is regarded as nearly as extinct as the great auk. It is possible that the people who think and say such things as these find satisfaction, but they fail to convince their fellows who go about with their eyes open. As a matter of fact, many thousands of seeds are sown indoors and out of doors in the spring months, and in those instances where care and attention are devoted to the plants, superb results are achieved. Between the present date and the end of the month is admirable for those with a gently-heated greenhouse or frame; but those who have only cold structures will be wiser to defer sowing until well on in February.

The Soil.—The ideal compost consists of three parts of loam and one part of refuse manure, with enough sharp sand or grit to keep it open, and it must be pleasantly moist at the time of sowing. It is advisable to surface each pot or box with a depth of about half an inch of sand.

Pots or Boxes.—As receptacles for the seeds, it is a matter of individual convenience whether pots or boxes shall be utilised. Small pots to accommodate one seed in each are much to be preferred to large pots, but they are commonly not at disposal in sufficient numbers, or the space available is not extensive enough for them. Unless they are exceptionally deep for their size, they have the disadvantage of cramping the roots somewhat in the stages shortly prior to planting in the garden. In the event of boxes being chosen, this last-named disability need not arise, since those of good depth can be selected. If they run from 6 inches to 9 inches deep, they will afford abundance of space for the roots; but great care will be required to keep so large a bulk of soil quite sweet until there are plenty of roots working in it. If boxes are used, allow a distance of 4 inches from seed to seed.

Sowing.—There can be no doubt that the seedlings thrive best when the compost is made fairly firm, and it is therefore admirable to fill the pots to within three-quarters of an inch of the edge, make the soil firm, and then to press the seeds in to the necessary depth—half an inch as a rule, but the white and spotted seeds are best when just level with the surface. Pressing in as suggested ensures a firm base, and a little soil can readily be put over the seeds. Many growers make a rule of chipping each seed either by cutting through the skin with a knife or filing. It does no harm and undoubtedly favours more rapid progress.

Treatment.—It is of the utmost importance that the soil shall be kept equably moist, as extremes of dryness or wetness inevitably cause trouble. The light-coloured and spotted seeds should usually be in a little drier soil than the brown or black seeds. In frames, always, and commonly also in greenhouses, it is desirable to cover each pot or box with a piece of glass to exclude mice, and, as it encourages germination, it is well to use it in all instances. The best position after the seedlings show through the surface is as close to the roof glass of the structure as the pots or boxes will stand, the object, of course, being to induce the sturdiest, stockiest growth.

AN ORNAMENTAL KALE (CRAMBE ORIENTALE).

LILIES: A CAUSERIE.

(*Continued from page 24.*)

OF the faithful few I give first place to L. giganteum, to which its beauty and good manners entitle it. We are old friends, for I grew my first colony from a pod of seed given me by that most generous instructor of my gardening youth, the late Dr. Lowe of Wimbledon. I strongly advise any who have the bump of patience at all developed on their cranium to accept fresh seed of this Lily whenever offered. I have saved a small quantity this season, and shall be glad to send some to any reader, as long as it lasts, who will send me an addressed envelope. If sown before it is dried up it will germinate the following spring, and the seed-pan will apparently promise a crop of Onions. Next season you might think a family of Erythroniums had taken their place, and the next that they are Funkias, and from thenceforward the glossy cordate leaves increase in beauty each season till, after their fourth, there are few plants to match them in the outdoor garden, Richardia æthiopica, the white Arum of common speech, being perhaps their nearest counterpart in the greenhouse. If the seedlings have been well cared for in a cold frame for their first two years, they can be planted out in their third spring. They soon make a beautiful foliage group, and in six to eight years most of them should be strong enough to throw up 10 feet of flower-stem with twenty or more of their magnificent trumpet-shaped flowers. I am very fond of their fragrance, which always strikes me as being of a similar type of scent to the Honeysuckles, with that same suggestion of custard with grated nutmeg on it. Of course, it is magnified Honeysuckle, as befits such a large flower, and carries to a wonderfully great distance, which is one of its greatest charms, for it is delightful to get whiffs of it on the summer air. When buying bulbs, I strongly advise selecting the smallest size offered and planting them well, so that they may remain undisturbed for two or three years before flowering; then they will be sufficiently strong to send up full-sized flower-stems, and also should have given birth to an offset or two to take their places after their inevitable demise. I have known of large bulbs being successfully transplanted the season before flowering and producing fine stems, but only when they were transferred from a neighbour's garden and treated *en prince* as to soil and waterings; but I have also known some terribly misshapen dwarfs with a flower or two at the height of two feet something and blind buds to crown the stem, all the result of a migration at the eleventh hour. As to a choice of site, shade from the rising and midday sun is requirement number one, and protection from the north-east wind in early spring number two. That means a position to the west or north-west of tall shrubs or trees, but far enough away from them to escape being overhung and the consequent drip, and also being robbed of their due of soil fatness by hungry, thieving roots. The soil should be well drained, and enriched that the strong roots may go far afield and find juicy food throughout the growing season.

Miss Jekyll has so well described her method of planting the Giant Lily at page 97 of "Home and Garden" that I cannot do better than quote it: "Here . . . their beds are deeply excavated, and filled to within a foot of the top with any of the vegetable rubbish of which only too much accumulates in the late autumn. Holes 12 feet across and 3 feet deep are convenient graves for frozen Dahlia-tops and half-hardy annuals; a quantity of such material chopped up and tramped down close forms a cool subsoil that will comfort the Lily bulbs for many a year. The upper foot of soil is of good compost, and when the young bulbs are planted, the whole is covered with some inches of dead leaves."

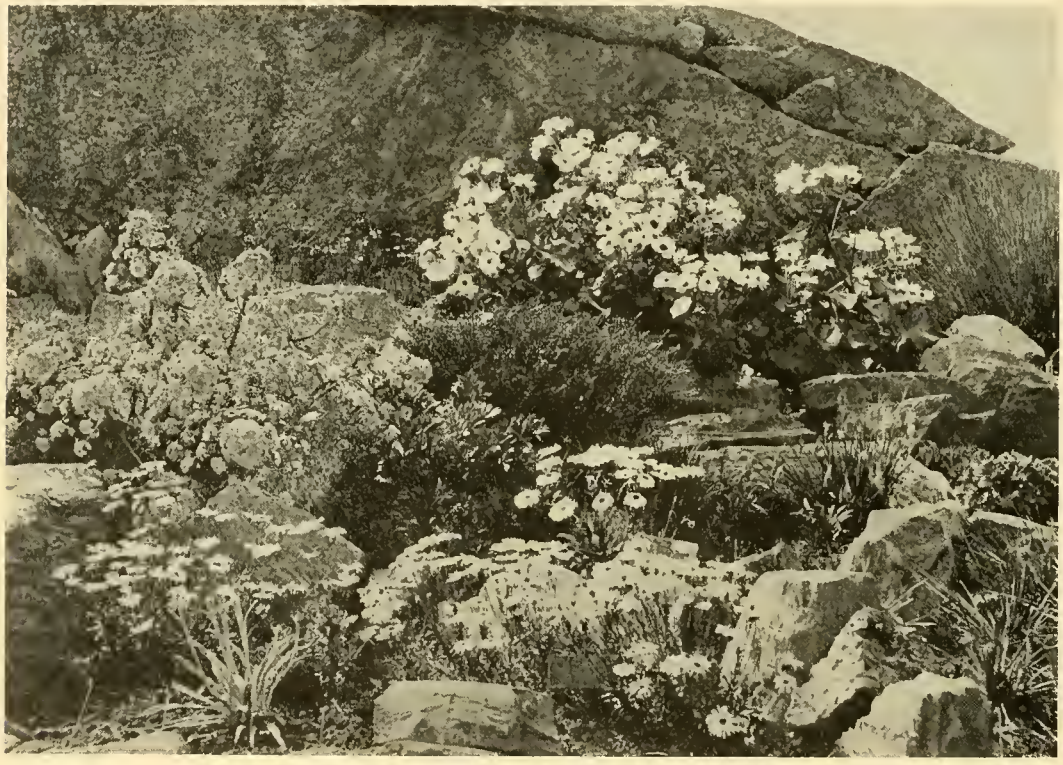
I have always followed this plan and found it most successful, only adding to it by surrounding the bulbs with sharp silver sand, a refinement that is doubtless unnecessary in a sandy Surrey garden. The bulbs should be only just below the surface, but if they work their way out too much, a good mulch of leaf-soil and well-rotted cow-manure may be given as a covering. Watering with weak manure-water will help the great flower-stem to add to its stature if judiciously supplied.

The illustration on page 35 shows a specimen of L. giganteum which flowered here this summer after an adventurous and almost tragic youth. When it was in its sixth year and beginning to think of preparing for flowering, Fate overtook it in the shape of my disreputable tame raven. She generally lives in the tree tops and contents herself with barking at passing rooks and sundry damages to Fir cones and Beech sprays, only coming down to be fed and to roost in her house. But in spring Crown Imperials prove an irresistible attraction to her—I suspect on account of their dreadful scent, a mingled essence of fox and Exeter Station (though many other large stations are as ill-smelling nowadays from the gas let loose from the trains). Then one season she discovered that L. giganteum, though it lacked the odour, was just as amusing to slash up in its succulent youth. Two or three seasons of this mincing process reduced my giganteum bulbs in a most interesting though heart-breaking manner. The bulbs dwindled to the size of three year olds, and only by wiring them round in spring and by liberal feeding have we saved their lives, and after three seasons seen a flower-spike on that group. It shows well what can be done in restoring to health a moribund specimen. The satisfaction of slashing a juicy Giant Lily is not confined to ravens, however, for one of our greatest living gardeners told me a tale of mingled joy and woe that always recurs to my mind when I see a fine spike of this Lily. It happened in his tender youth that his father, the Director of one of the most beautiful botanic gardens in Europe, was regarding as the important garden event of the year the flowering, for the first time there, of a group of Giant Lilies. The spirit of Jack the Giant Killer descended upon the future knight, and, fashioning a lath sword, he fought a fierce and sappy battle with the Giants, ending in complete victory to the boy and utter ruin to the vegetable enemy. He still remembers with equal vividness the wild joy of overcoming the succulent resistance of the Lily stems and the painful interview with his father that formed the sequel to the Battle of the Giants.

Even now, in late December, at the moment of writing, there is great beauty in the tall bare stems and seed-pods standing sentinel among Asarums and dwarf evergreens, and while still clad with the glistening leaves, gradually diminishing in size as they ascend the stem, and crowned with the vivid green seed-capsules, which stand erect with a particularly striking effect of vigour and stability, few plants give so noble an architectural outline in the hardy flower border.

E. A. BOWLES.

(*To be continued.*)



PART OF A NEW ZEALAND ROCK GARDEN. THE PLANTS SHOWN ARE NATIVES OF THAT COUNTRY.

ROCK AND WATER GARDEN.

RANUNCULUS LYALLI IN NEW ZEALAND.

I AM sending you a photograph of a portion of the rockery here devoted entirely to native plants. In the foreground are several varieties of Celmisias, on the left Ligusticum brevistyle, and in the background Ranunculus Lyalli. I am surprised the latter is not grown more in England, as, given a good strong loam, good drainage and a fair amount of water in summer and a heavy mulching of spent hot-bed manure in winter, I see no reason why it should not do well. R. Matthewsii (a very rare species) is one that should do well, as I find it flowers much quicker after collecting than R. Lyalli; in fact, one plant I got two years ago flowered twice last season—in early spring and again in autumn. I shall have a limited amount of seed of R. Matthewsii, also a quantity of seeds of alpines, Veronicas and similar plants, which I shall be glad to exchange with any of your readers for seeds of alpines from the Northern Hemisphere.

WILLIAM WILLCOX.

Queenstown, Otago, New Zealand.

SAXIFRAGE CLIFFS IN ROCK GARDENS.

OF the many methods of growing Saxifrages, I have found none as satisfactory as the "cliff" method. When properly built the Saxifrages nestle into it, soon filling its cracks and chinks with their tight, silvery cushions. Even the hottest sun seems unable to scorch them or to dry up their roots, which run far back behind the protecting ledges of stone, and the heaviest rain fails to rot their centres, as they are all growing in vertical positions, and the water cannot lie on them.

Such cliffs are not difficult to make; any projecting "nose" of the rockwork can be adapted, and stones too small or ugly to be worked into the general scheme of the rockwork can now be utilised. The stones, which must be built into the face of the rock bank, are placed on top of one another, with a little light, gritty soil sandwiched in between. They should not be too far apart. If you consider the stones as bricks, and the layer of soil as the mortar between them, you cannot go far wrong. Having built in your first stratum of stones and covered their tops lightly with the soil, next select your Saxifrages—two or three plants of a kind, if possible—knock them out of their pots, shake a little of the soil from their roots, slightly flatten the latter with the palms of your hands, and then lay the plants on top of the stones in such a manner that their foliage only just clears the edge; then sprinkle a little more soil over the roots, place another stone on top and press it down, taking care that its lower edge does not overhang the stone beneath it, but recedes slightly from it. This is necessary to enable moisture to reach the roots. If the plants are put in in this manner while the cliff is being built, it is astonishing how soon they are at home and how rapidly they grow.

On a cliff made as recently as March, 1912, which is about five feet high and projects from a south-east corner of rockwork, I have at the bottom plants of S. rocheliana lutea, and immediately above these S. sancta speciosa and S. Paulinæ, higher up S. Ferdinandi-Coburgi, and on top of the white stone S. Borisii. Above this, on the left, is S. scardica, one of six plants of S. longifolia, and, just peeping over the top, S. dalmatica. On the right from the bottom are S. longifolia and S. Obristii, above S. thessalica, and near the top S. tombeana and S. Aizoon minima. All are the picture of health and growing vigorously, and I strongly recommend this method to all who grow Saxifrages. On a similar cliff a few yards away, built two years ago, the plants here completely covered its face, and are crowding each other to such an extent that I shall have to harden my heart before next growing season and thin them out.

Knapton, Abbeyleix. MURRAY HORNIBROOK.

LILIUM GIGANTEUM IN MR. E. A. BOWLES' GARDEN AT WALTHAM CROSS.

THE FRUIT GARDEN.

THE BEST PLUMS AND THEIR CULTIVATION.

WHILE the exact identification of the "forbidden fruit" remains a matter of speculation, I have no hesitation in designating the Plum the "unappreciated fruit." The extended culture of the commoner varieties for "market" purposes has perhaps to answer for the lack of appreciation of this most delicious fruit; but I also venture to think that a lack of care in gathering at the right season and storing for a short interval are likewise partly responsible for its neglect.

The Plum has long been reproached with unfruitfulness; but we are now able, thanks to recent research at the John Innes Horticultural Institution, to remedy one frequent cause of this first of deadly sins. I allude to the fact that Plums are generally self-sterile; that is, pollen must be brought from another variety to ensure the perfect setting of their fruit. This is a valuable piece of information to gardeners—and nurserymen.

Another cause of infertility is the destruction of blossoms by spring frosts. Considering the ease with which this may be combated, by throwing over the tree a piece of netting, I wonder it is not more practised on dwarf trees. Most gardeners, however, allow a certain wall space to the choicest varieties, where protection is easier still. It is a common complaint that the Plum in its earlier stages makes too much growth. This should be remedied by the culture of pyramids and bushes, when occasional transplanting for the first ten years will ensure an abundance of fruiting spurs. It must also be remembered that this fruit is a lime-loving plant, and needs a good supply always at hand, or should I say at the root?

Plum orchards may be seen thriving on the Southern chalk downs with the thinnest of surface soils. Of varieties there is a wide choice, and I will mention but a few of the best. First of all comes Oullin's Golden Gage, a large yellow fruit, excellent for dessert, and for bottling one of the very best. August brings the Early Transparent Gage, small, but certainly highly flavoured. September is the Plum month, and many are at the disposal of the gardener. The Green Gage, Transparent Gage and Jefferson are all sorts that no self-respecting gardener can dispense with, while for the kitchen, and also for the boys home from school, Victoria, the ever-cropping, and Belle de Louvain are desirable. Late varieties are found in Golden Transparent and Coe's Golden Drop. It is not generally known that the latter can be kept for a long period in the fruit-room.

For late cooking purposes Monarch and the newer President are most valuable.

Those whose gardens are in sheltered spots, and where spring frosts are not troublesome, should grow a tree or two of the Myrobalan, of which there are two varieties—yellow and red. The tree flowers very early and is decorative, so that even if it fails to crop, it justifies to some extent its existence. The fruits when bottled are excellent, but must not be gathered too ripe, or they will be mealy. This must not be confused with the Mirabelle of the Continent, which is of the Gage tribe and noted for its excellent jam-making properties.

To those who have glass at their disposal, pyramid trees in pots can be strongly recommended. As decorative specimens when in flower and fruit they are most beautiful, and the fruit attains a richness of flavour not often equalled by outdoor trees. No heat is necessary, and they will be over in time to allow the house to be used for Chrysanthemums—a further point in their favour. E. A. BUNYARD.

THE GREENHOUSE

WINTER-FLOWERING GREENHOUSE HEATHS.

AT one time collections of greenhouse Heaths formed a prominent feature of many gardens, but with the decline in popularity of hard-wooded plants in general, many of the Heaths disappeared from cultivation. A few kinds, however, are still grown, and as a rule in very large quantities, for some of the nurserymen who make a speciality of them generally devote the greater part of their energies to these greenhouse Heaths and similar plants, such as Boronias and Epacrises. Delightful little specimens of these may frequently be seen in the florists' shops, especially during the autumn, winter and early spring months, the summer-flowering kinds being, naturally, not so much in demand, though of them the attractive Erica ventricosa is still grown. After the summer is over, the Heath season may be said to begin with E. gracilis, a dense, twiggy little bush, whose tiny rosy purple flowers are borne in great profusion. Several varieties of this Heath are in cultivation, namely, rosea, in which the purple tinge of the flower is almost wanting, it being of a pleasing rosy shade; and vernalis, of more sturdy growth than gracilis itself, and much later in flowering. There are two white or pale flowered kinds, namely, alba, the oldest, in which the blossoms often have a pinkish tinge. They are decidedly less pure than those of nivalis, which is now extensively grown.

After E. gracilis comes E. hyemalis, a great favourite, and always in considerable demand about Christmas-time, when model little plants in 5-inch pots can be purchased at a comparatively cheap rate. There is a variety of this known as superba, whose flowers are deeper coloured than those of the type, also a variety alba, in which they are pure white.

Another winter-flowering Heath that has come prominently forward within the last decade or so is E. melanthera, which may be grown into larger specimens than any of the others. The flowers of this, which are borne in great profusion, are small and of a distinct mauve colour, with blackish anthers. The low-growing, white-flowered E. caffra is also grown to a limited extent.

Of those that as a rule bloom somewhat later than the preceding, but yet may well be included with winter-flowering Heaths, are E. wilmoreana, somewhat in the way of E. hyemalis, but of a more robust, spreading habit; and E. persoluta alba, with a profusion of tiny white bells, gracefully disposed. Within the last few years miniature plants of some of these Heaths, particularly E. gracilis, E. caffra and E. persoluta alba, have made their appearance in the florists' shops and met with a ready sale. The smallest of these are struck in the spring and allowed to go on and flower without stopping.

A WHITE-FLOWERED HEATH (ERICA GRACILIS ALBA).

Cultivation.—All the different winter-flowering kinds alluded to belong to what are termed soft-wooded Heaths, from the fact that they are readily propagated by cuttings of the soft-growing shoots; whereas many of those that used to be grown as large specimens could only be increased by cuttings of a firmer nature. These soft-wooded cuttings are, as might be supposed, very delicate subjects to handle; hence everything should be prepared before they are taken in hand. They are best covered with a bell-glass, so that the size of the pots or pans will depend upon that of the bell-glasses available. Whether pots or pans, they must be filled to within an inch of the rim with broken crocks, coarse at the bottom and very fine on the top. The soil should consist of peat and sand passed through a sieve with one-eighth of an inch mesh, and made very firm and smooth. In inserting the cuttings, each one must be made quite firm, and though space should not be wasted, overcrowding must be avoided. A length of about an inch is a suitable one for the cuttings, in preparing which a very sharp knife is essential. When a pot is filled, it should be watered through a very fine rose, allowed to drain, and then be placed in a snug part of a warm greenhouse, taking care that the cuttings are shaded from all direct sunshine. When rooted they must be potted off, the subsequent treatment being a matter of detail. It must, however, be borne in mind that it takes nearly three years to obtain a good plant, and this circumstance renders the cheap price at which flowering examples are sold very surprising.

Where it is intended to keep the old plants after flowering and grow them on another season, they should, when the blossoms are past, be cut back hard, and as soon as the young shoots make their appearance the plants must be repotted, giving them in most cases a pot one size larger than before. The soil should be peat and sand, pressed down very firmly, and especial care must be taken when repotting that the ball of earth is not dry, otherwise it will be almost impossible to moisten it in a satisfactory manner. H. P.

A SEASONABLE NOTE ON AURICULAS.

So far the plants have been kept strictly on the dry side, but soon the days will begin to lengthen and the Auriculas will show signs of renewed activity. Towards the end of the month the collection ought to be looked over, all decayed leaves removed and the soil slightly stirred with a pointed stick. There is no need to take away an inch or so of soil and replace with a rich compost, as was the case in the old days. All offsets may be taken off, whether they are rooted or not, and those with roots can be potted singly in 3-inch pots. Any without roots should be placed around the edge of a pot, where they will soon become established, when they can be treated as larger examples. If the weather keeps open and mild, more water ought to be given; but even at this period they must not be kept too wet, or the roots will decay and the quality of the blooms suffer later on. Plenty of air must be allowed at all times; but now that growth has recommenced and the spikes beginning to appear, it will be advisable to cover the frames with Archangel mats should frosts make their appearance. The weather has been so mild up to the present that, unless they receive a check, the Auriculas will probably flower earlier than usual. S.

HOW TO REPAIR HOLLOW TREES.

THIS is a subject worth more attention from the owners or those who have the care of trees. It is a matter for the small garden with a few trees as well as for the pleasure grounds and parks where the trees may be counted by hundreds. The causes or origin of wounds or decay in trees are varied. Branches broken off by wind usually leave a stump, or it may splinter off a piece of the larger limb, to which it was attached. In both cases decay will almost inevitably follow, unless means are adopted to check it. Snags or stumps should be sawn off close to the remaining branch or to the trunk. After sawing, the rough surface caused by the teeth of the saw should be gone over and pared with a sharp knife, to provide a better surface for the tar. All wounds made on trees, whether through accident or the removal of branches in the training, pruning, or balancing of a tree, should be coated with ordinary coal-tar.

Historical Trees.—The life of famous old trees and grand specimens is sometimes considerably shortened by disease, which, if checked or even cured, would have considerably prolonged their existence. Before filling up a hole or cavity in a tree, the hollow must be thoroughly cleaned out. Damp, rotten wood attacked by fungus, or soft, crumbling wood must be first cleaned out, removing it with a chisel or small axe till only dry, hard wood remains. One or two dressings of carbolic acid solution should then be applied to destroy, if possible, all traces of disease. In a day or two a coating of tar should be applied and allowed to dry. The nature and extent of the hollow will decide the method of filling it. Small holes may be filled with a mixture of cement and sand, or, if round and a fair depth, an Oak peg coated with tar may be driven in and cut off flush with the trunk.

1.—A WOUND IN A CHESTNUT TREE CAUSED BY THE REMOVAL OF A BRANCH.

2.—THE HOLLOW FILLED WITH A MIXTURE OF CEMENT AND SAND.

Bricks and mortar, together with concrete, are the best materials for filling up large hollows. It is sometimes necessary to build up a face with bricks, and fill in behind with concrete as the work proceeds. One tree—a Beech—with which we had to deal was hollow on one side, from the ground to a height of 21 feet. In this tree eighty-four courses of bricks were built up—some three hundred bricks in all—with concrete behind and a facing of cement over the bricks. Another tree—a Walnut—took nearly a ton of concrete, but in this case the shell of the tree held it together without the aid of many bricks. Before attempting the work of filling up large holes, make sure that the tree is not dangerously weakened through decay.

Those readers who have not had much to do with trees will probably say, "Why let the hollows get so big before filling them up?" In some cases the large holes are, of course, due to neglect in the earlier stages, but the decay goes on in some instances unnoticed within the tree.

The wound in the Chestnut illustrated was caused through the removal of a large branch, and before the wound could heal right over, decay started in the centre. The new bark is plainly visible growing on either side of the hollow, and in time it should grow over the cement and meet. For this reason it will be observed the filling-up material has only been brought level with the new bark, and not flush with the trunk. For important work of this kind the gardener will often find it necessary to call in the aid of a bricklayer. With a little practice the varying colours of the wood can be obtained by lamp-black, soot, or a little dry cement being sprinkled on when wet. The markings of the trunk can also be imitated by a skilled workman. It is necessary to watch the wounds and "stopping" occasionally, tarring over the former every two or three years till quite healed over.

The carbolic acid solution is prepared by mixing a quarter of a pound of carbolic acid and one gallon of methylated spirit.

THE TRUNK OF A SILVER BIRCH TREE BEFORE AND AFTER REPAIR.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Propagating Bedding Plants.—Where only small stocks of such plants as Coleus, Iresine, Lobelia, Mesembryanthemum, &c., are wintered, the work of propagation should be commenced at once. The cuttings root quite freely at this date, and, once rooted, the work of hardening them off is much more easy than later, when strong sunshine has a tendency to make them flag for a considerable time, unless, of course, the syringe is kept going pretty freely over them.

Zonal Pelargoniums that may have been rooted singly in small pots or in boxes in the autumn should now be potted off as time and available space permit, using the size pot that may be most suitable for their proper development, remembering that a plant starved in a small pot takes a longer time to get over the shift when removed to its summer quarters than one in the full vigour of growth, the loss of foliage in the former case proving an eyesore for a considerable time.

Plants Under Glass.

Malmaison Carnations.—If not already done, autumn layers of these beautiful flowering plants should be potted into their flowering pots at once, which, by the way, should be of 6 inches. Good friable loam, spent Mushroom manure, a little bone-meal—a 4-inch potful to a wheelbarrowful of soil—a good sprinkling of wood-ashes and lime rubble, with sufficient coarse sand to keep the whole porous, should suit them well, making them pretty firm during the operation.

Arum Lilies.—These are now growing freely, and if a good crop of large blooms is required, plenty of water and manure must be given them, and a dressing of some artificial manure might be given at least once every fourteen days. These plants, being somewhat subject to green fly, should be fumigated occasionally. This is sometimes thought expensive, but in the long run it is much cheaper than sponging.

Lachenalias.—If a batch of these is required in bloom fairly early, they may be placed in a house with a night temperature of 50° to 55°, but not warmer. Those still in cold frames should be removed to the shelf or stage of a light, airy and cool house, where the foliage will get much more robust, and with the aid of a little liquid manure the flower-spikes should come strong and of good colour.

Chrysanthemums.—Cuttings propagated during late November and December under cool conditions should be making roots nicely, and when found to be doing so should be removed to a frame or house where the conditions are less close, and where air can be admitted in increasing quantities as the young plants attain hardiness. To prevent flagging during bright weather, the plants should be very lightly sprayed overhead. A further batch of cuttings for large blooms may be put in, selecting those varieties that from earlier propagation produce flowers a little too early for November blooming. These include such varieties as Master James, Mrs. A. T. Miller, Frances Jolliffe, White Queen, Mrs. L. Thorn, Mrs. R. Luxford, Evangeline, Marie Loomes, Kara Dow, Japan and Miss Gladys Herbert.

The Kitchen Garden.

Asparagus.—Where a regular supply of this has to be kept up weekly or bi-weekly, batches should be placed in the forcing pit or house, covering the crowns over with 3 inches or 4 inches of leaf-mould or light, sandy soil. A bottom temperature of about 60° to 65° should be maintained either by hot-water pipes or by well-prepared hot-bed material, which will sustain a good quick growth.

Seakale.—A good supply of this should also be kept up, varying the amount according to requirements. Where a Mushroom-house or other specially-constructed place is not to hand for the forcing of Seakale, and Rhubarb, the supply may be kept up by placing from six to nine roots in 12-inch pots, inverting another pot over the top of each. These roots, if placed under a stage in a warm house, will soon be fit for use. The whole batch of forcing Seakale should now be lifted (if not already done) and thinned.

Fruits Under Glass.

Pruning Peaches in Successional and Late Houses.—Presuming the trees have been gone over after fruiting, the pruning should not be a serious matter; but before cutting them free of the wires they should be gone over carefully, taking out all wood that is not absolutely necessary for the proper furnishing of the tree, discriminating, of course, in favour of the younger wood, unless this be of too luxurious a growth. Peaches and Nectarines are often left too thickly. From 4 inches to 6 inches is quite close enough for the wood, for it has to be borne in mind that when growth commences there is bound to be two shoots for one at least, and these covered with foliage.

Orchard-House Trees of Apples, Pears, Plums, Apricots and Cherries should still be kept quite cool unless they are wanted very early, as undue hastening of the flowering period is apt to result in weak flowers and a poor set of fruit.

The Hardy Fruit Garden.

Pruning.—Continue the pruning of hardy fruit as time and weather permit, going from the wall trees when they are finished to the more exposed trained trees growing round the paths in the garden.

Pears.—On our cold soil I find there are certain varieties of Pears that will not stand really hard or close pruning, owing to the shoots dying back when pruned, and these include such varieties as Beurré d'Amanlis, Olivier des Serres, Beurré Superfin, Easter Beurré, Josephine de Malines, Winter Nelis, Beurré Alexandre Lucas and Louise Bonne of Jersey, so when pruning these, either during summer or winter, I leave the growths about two inches longer than those of the ordinary varieties.

Apples.—Certain varieties of Apples are also much more shy when grown as trained trees than as standards, and such varieties often carry a crop of fruit-buds that are at the apex of small shoots, say, from 6 inches to 8 inches in length, such shoots often springing from beneath the fruit. If these shoots are left, they will often give a crop of fruit when there are no short fruit-buds formed at the base of the spur, and varieties I have noted cropping in this way are Gascoyne's Scarlet, Cornish Gilliflower, Golden Pippin, Irish Peach, Old Nonpareil, Mr. Gladstone, Gloria Mundi, Hollandbury and Kentish Fillbasket.

THOMAS STEVENSON.

Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sowing Sweet Peas.—This should not be much longer delayed. Equally good results may be obtained either by sowing in pots or boxes, the latter method being more convenient. Sow in rows about three inches apart, and an inch apart in the rows. Well-ripened seed from a healthy, well-grown stock is the best guarantee for satisfactory germination. Mice must be guarded against, either by coating the seeds with red lead, by covering the boxes with sheets of glass, or by laying poison near. The last-named precaution will be necessary after germination takes place in any case. Place the pots or boxes in a frame or cold pit.

Bedding Plants.—Stock should now be placed in heat to supply cuttings later on. Geraniums should have their growing points pinched to induce a stubby growth prior to potting or boxing off.

Dahlias should have their tubers shortened and the dead parts cut away, then be placed in heat in order to furnish cuttings. Spray them daily after the first week to induce them to break vigorously.

The Rock Garden.

Additions.—Any constructive work should be pushed forward, so that the work of planting (best done in autumn) may be proceeded with as early in spring as possible.

Protection.—Treasures such as Daphne blagayana are well worth the trouble of placing a bell-glass over them to keep them clean. The glass should be set on two bricks to admit abundance of air. The finer varieties of the Lenten Rose, too, will be benefited by the protection of a hand-light. Mice are fond of the flower-buds of the lighter-coloured varieties, and should be trapped or poisoned.

The Shrubbery.

Lilacs.—These often throw up a lot of suckers, which, if left alone, draw up weakly, doing no good to themselves and robbing the main stem of nutriment. If the plant is grafted, the suckers should be removed and burnt. If, however, it is a desirable variety on its own roots, some of the strongest suckers may be planted in the reserve garden for subsequent planting.

Plants Under Glass.

Winter-Flowering Begonias.—As these go out of bloom they should be headed back to induce them to make cuttings. A slight spraying daily will assist in the process.

Perpetual-Flowering Carnations.—The propagation of these plants must now be proceeded with, and this is the time for those who have not yet attempted their culture to make a start.

The Cuttings should be taken off with a heel and inserted round the edge of 3½-inch pots, six to a pot. A compost of loam, leaf-mould and sand is suitable for the purpose. Place the pots in a propagating-case where a night temperature of 60° is being maintained, and the cuttings will be rooted in about three weeks.

Gloxinias.—If seedlings are expected to flower in the autumn, a sowing should now be made. Use a well-drained pot or seed-pan, and fill it with a mixture of loam, peat, leaf-mould and sand. Make the surface quite smooth, and water with a fine rose. After two hours the seed may be sown, and, being very fine, it should first be mixed with some sand to secure equality of dispersion. Do not cover with soil, but place a pane of glass over the pot or pan and inure to air as germination takes place.

Fruits Under Glass.

Melons.—If not already done, a sowing should now be made if ripe fruit is expected by the beginning of June. One seed to a pot is good practice; but if room is scarce, I find that a batch can be sown in a pot or pan and duly potted off into 3½-inch pots, with equally good results. A bottom-heat ranging from 75° to 80°, with 5° less of top-heat, is necessary to keep them going smartly, and this is very necessary with a naturally succulent, quick-growing plant like the Melon.

Orchard-House Fruits.—A start may now be made with Pears, Plums, Cherries and any other orchard-house fruits. Begin to force gradually; in fact, if the house is kept close, no fire-heat will be necessary for the first fortnight, provided the weather is mild.

Figs may be started with a night temperature of about 50°, with a rise of 5° during the day in dull weather and 5° to 10° more with bright sunshine.

The Hardy Fruit Garden.

Loganberries are acceptable to most families, as they can be utilised in various ways—uncooked, stewed, or as a jelly. Moreover, in soils such as I have to deal with—a heavy clay—where Raspberries do not succeed well, they form a welcome substitute for, or addition to, that crop. Those who purpose making a plantation should trench the ground and give it a liberal manuring prior to planting, then little working of the soil will be required for several years. By far the best method of training is on a double trellis 1 foot apart, training the fruiting canes up one side and the succession ones the other, and transposing them annually.

The Kitchen Garden.

Early Carrots.—Fermenting materials should now be prepared for making up a slight hot-bed, and an early sowing of some of the stump-rooted varieties, such as French Short Horn, should be made.

Early Turnips.—Preparations similar to those directed for early Carrots should also be made for an early sowing of this crop, where such is in demand. Early Milan or its white variety is suitable for this purpose.

Onions.—If not already attended to, not a day should be lost in getting in the seed of these. Sow in boxes of fairly rich, finely-sifted soil, and place in a vinery at work. Ailsa Craig and Cranston's Excelsior are the varieties to sow where big bulbs are wanted.

Lettuce.—A small sowing should be made in a house with a temperature ranging from 50° to 55°. Use a quick-hearting Cabbage variety.

CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

NEW AND RARE PLANTS.

AWARD OF MERIT.

Lindenbergia grandiflora.—This might not inaptly be styled the "Tree Musk," so nearly do the flowers in size and colour and form approximate to the popular plant indicated. The example shown was 2½ feet high, and had been flowering for some three months in succession. It is by no means a novelty, having been known to cultivation for many years, though, with many others, apparently almost lost. The plant has a bushy habit of rather woolly leaves and stems, and almost from base to summit is furnished with a profusion of yellow Musk-like flowers. As a winter-flowering subject it is worthy of attention. From Messrs. James Veitch and Sons, Limited, Chelsea.

NEW ORCHIDS.

There was no lack of novelties brought before the Orchid committee of the Royal Horticultural Society on January 7, when the foregoing award and those following were granted. Only one first-class certificate was awarded, and this went to a remarkably fine form of Odontoglossum Pescatoræ named Sanderæ, which was shown by Baron Bruno Schröder. There were three new Cypripediums to gain awards of merit, viz., C. Amazon, from F. Menteith Ogilvie, Esq.; C. Iona, from His Grace the Duke of Marlborough; and C. Alcinida, shown by Messrs. Charlesworth and Co. Other novelties to secure awards of merit were: Lælia anceps roeblingiana, shown by C. J. Roebling, Esq., of New Jersey; Odontonia Firminii, from M. Firmin Lambeau; Habenaria Rœbelinii, shown by E. H. Davidson, Esq.; and Odontoglossum George Day, from H. S Goodson, Esq.

THE MISUSE OF MANURES.

DOUBTLESS the majority of the readers of this journal have heard the story of the old gardener who, on a visitor enquiring of him for the head-gardener, took him to the manure heap. I have never been able to see anything either humorous or clever about this, as anyone who allows manure to be master must have a very poor idea of the profession. That manure is an indispensable item in good gardening no one will deny, but its indiscriminate use does far more harm than many suppose. Instead of calling the manure heap the head-gardener, I would term it an excellent assistant, if kept in its proper place. For instance, the production of good Celery, Onions, Leeks, Peas, Beans, Cauliflowers and Brussels Sprouts depends to a considerable extent on the judicious use of manure, while Beet, Carrots, Potatoes and a few other vegetables will simply be ruined if manured on the same liberal scale. It is in cases of this kind where intelligent experience is a necessity.

There can be no doubt that a great amount of manure is annually wasted through ignorance or carelessness. This applies more especially to the artificial compounds that are now in common use all over the country, as, with the advent of the motor-car, the amount of stable manure is now considerably reduced in quantity. Naturally, the amateur is the greatest sinner in this respect, although I am ashamed to say that many professional gardeners, in their hurry to make things grow, not infrequently use their artificials in too strong doses, and thus over-reach themselves. It never seems to strike these people that the vendors of these compounds invariably advise the maximum safe quantity to be used, or at least the proper quantity, to give best results. If the directions are faithfully followed, the great bulk of the manures offered will give satisfactory results. I am no chemist, so do not pretend to know much about the various ingredients that go to make up the different artificial fertilisers on the market, but from a long and careful study of the wants of the various plants I have been able to secure quite good results in the majority of cases.

I have heard numerous discussions on the subject of artificial manures, many holding that they are excessively expensive, and that one would save considerably by mixing their own manures. I do not believe this to be practicable, as who is to decide as to the ingredients, their proper proportions and other points? I for one have no time, nor inclination, for carrying out a series of experiments so as to decide the question, and will continue, as I have done for twenty-five years, to rely on one or two of the standard preparations on the market.

In past years I have tested in a small way a great number of the proprietary fertilisers, and found that the majority had their good points, if strict attention were paid to the directions supplied by the makers. I have always tried to be as exact as possible, both with quantities and times of application, and consider that in most cases the results justified the expenditure. For pot plants, to my mind, a good sound artificial manure gives far better results than the use of natural manures ever do, and with about a quarter of the trouble. While I have proved this, to my own satisfaction at least, I am well aware that a careless use of these chemical stimulants may easily result in disaster, but the same may happen if the plants be dosed with too strong liquid manure. On the other hand, I have no great reliance to place on artificial manures when used alone for flowers, fruits or vegetables in the open garden.

Good farmyard manure used in moderation and supplemented with a light dressing of a good artificial will in every case give excellent results. Over-manuring is not only wasteful of material, but causes waste through the crops being coarse and unfit for use, and not infrequently either kills plants directly or, by forcing them into sappy growth, causes them to succumb to frost or damp. It would be easy to dilate further on the evils of over-manuring, but enough has been said, I hope, to cause the careless to take thought on the subject, and so avoid this most undesirable mistake.

Preston House Gardens, Linlithgow. C. BLAIR.

THE "WOBURN" PLANTING OF FRUIT TREES.

IN an article contributed to *Science Progress* by Mr. Spencer Pickering, F.R.S., the Director of the Woburn Experimental Fruit Farm, among other interesting matter the author gives some account of experiments in tree planting, both by the ordinary accepted methods and by his new plan of "ramming." As he claims to get such excellent results from his method, so much superior to those following upon ordinary planting; moreover, as his method might without offence be described as "careless," and as the success of "careless" planting over that carried out with much care may encourage growers to still more slipshod methods than they adopt at present, it may be as well to examine carefully what has been accomplished and what is claimed for it.

The author starts the consideration of "ramming" with the thesis: For the development of the dormant root buds, as they may be termed, intimate contact between the roots and the damp soil is essential. No thoughtful planter will quarrel with this, as the aim of every such person has been to tread the soil as solidly as possible when the roots have been covered. He goes on to say, however, that "much more intimate contact between the roots and soil can be secured by ramming the soil around the tree, as in fixing a gate-post, especially if the soil be wet at the time"; and, further on, "Planting with ramming can be safely practised, however wet the soil may be, and at a time when planting in the ordinary way would be out of the question, ramming to the extent of puddling the soil being no disadvantage." Here I think we should, many of us, part company with the author, in spite of the experiments he has carried through and which seem to point this way. In the first place, it is quite possible that ramming a light sand when wet might not permanently harm it, but if such treatment were applied to a heavy clay, on the approach of spring with its drying winds, all the soil which had been treated to this "puddling" would dry like bricks, and one can scarcely conceive of fruit trees thriving under such conditions.

Another point is the absolute impossibility of any aeration going on in soils which can be described as "puddled," a condition which, one would think, could not be anything but harmful, in view of the late discoveries concerning bacteria and their requirements.

Can it be possible that unconsciously Mr. Pickering and his assistants who carried out the experiments have treated the trees planted by the ordinary methods too gingerly, and that they have not really been planted solidly enough?

Next we come to the question of the treatment of the roots, and here again the author departs from accepted practice a good deal. He says: "Whether the end of a broken root be trimmed or not appears to make no difference to the welfare of the tree," and he bases his argument upon the fact that "only 15 per cent. of the new roots of trees were formed within a quarter of an inch from the old root ends"; but surely this does not affect the matter. We do not cut away a jagged end of a root primarily with a view to root formation, but in order that the tree may quickly heal and protect the wound, a result more and more necessary in these days when animal and vegetal pests inhabit the soil and prey upon the roots as well as the branches. It seems to me that one might as well say that a broken branch need not be cut back because shoots did not arise from a certain distance from the fracture. Another passage runs: "Shortening of the roots up to one-third of their length (but not more) has been found to be of slight advantage rather than the contrary." It is difficult to see exactly to what this refers, but one must suppose it is the length of the root as lifted with great care—that is, the maximum length of root it is possible to get out—that is meant. If the roots of trees—as they are often, unfortunately—lifted in commercial places were submitted to this drastic shortening, there would be but very little root left. I fancy that quite as drastic a shortening of the roots is done on a market place as an ordinary matter of course—that is to say, the roots as planted

are but little longer than Mr. Pickering's, though the actual cutting back is not so severe, and that anything further in this direction would be unwise. In the same way, I think that a proper planter with his gang on a market-grower's place makes his trees quite as solid by his treading as the author does by his ramming, and so achieves much the same results. The personal element enters so largely into this sort of thing, where there is no means of actually checking all the conditions, in this case the density of the soil arrived at by the different methods of "treading" and "ramming." I venture, with all diffidence, to suggest that these are some of the reasons for the rather startling set of results Mr. Pickering claims for his experiments. X.

PLANTS FLOWERING OUT OF SEASON.

ALTHOUGH the calendar declares the date to be the early half of January, the birds and flowers of this garden insist that it is at least the latter half of February. This is so unexpected to me after so cool and damp a summer that it seems worth recording and endeavouring to account for it. Last December was the warmest known since 1868. Dr. H. R. Mill, in a letter to *The Times* of January 3, gives the mean temperature of the past December as 49·8° and that of 1868 as 50·0°, one-fifth of a degree higher. But the mean of the highest daily temperature of December, 1912, is 50·8°, whereas it was 50·7° for 1868, and so stands higher for 1912 than has been yet recorded.

That, of course, is a large factor in this unseemly rush to be first in flower; but I think we must look still further back for other causes to account for the extreme earliness of some plants. For instance, Eranthis hyemalis was in full flower here in the third week of December, making the ground green and yellow where the larger colonies grow; but the blossoms were thin and poor, as they always are when early. Gerard knew this, and expresses it thus in his pleasant Old English: "Yea the colder the weather is, and the deeper that the snow is, the fairer and larger is the floure, and the warmer that the weather is, the lesser is the floure and worse coloured." I take it that when delayed below ground and then rushing up with the thaw, the flowers are better matured and have lost that thin texture and greenish tint which are also so characteristic of an over-forced Daffodil.

But more marked still in this garden, and I hear almost everywhere else, is the early flowering of the Lenten Hellebores, H. orientalis and kindred kinds. By mid-December they were in full bloom here, and taller and handsomer than they usually are even as late as early March. They had not rushed out, but had come along quietly and steadily for months. There were sharp frosts in early November. Here we registered 11° or 12° on several nights, and when this spell of warmth followed, the plants seem to have been persuaded the winter had come and gone, and grew in a rapid manner, somewhat akin to plants that have been retarded in cold storage or etherised. It is well known that Rhubarb forces better after being frozen, and entomologists who wish to force pupæ find that it is better to let most of them, at any rate our truly Northern species, feel a touch of cold before putting them into heat, or, instead of being hurried into emergence, they may be induced to lay over to another season.

I am, however, inclined to think that the greatest amount of preparation for early flowering this season must be attributed to the extraordinary absence of rain in April and early May of last year, which hurried up and stunted the Darwin Tulips so markedly, robbing them of much of their beauty in all but deeply-dug and cool soils. I noticed how Crocus leaves ripened and disappeared quite six weeks earlier than usual, and it was the same with Snowdrops, and that, I feel sure, is the prime cause of my having Galanthus byzantinus, Imperati and several early seedling forms of nivalis well out in bloom before Olgæ was over. And the list of Croci in flower in the open ground in Christmas Week included C. Imperati, Sieberi, dalmaticus, tommasinianus, ancyrensis, chrysanthus in about a dozen varieties, Korolkowi, alatavicus, cyprius and aureus. Now, in the second week of January, most of the species that should be out in mid-February are full of flower, but the dull, wet days forbid their opening properly, and I feel I am being cheated by the Clerk of the Weather of my proper enjoyment of the Crocus season. Iris sophenensis and histrioides were both in full flower before Christmas. I deplore this unseasonable blooming, but to compensate for it such subjects as Iris unguicularis, Chimonanthus fragrans, Lonicera fragrantissima, Correa magnifica (on a wall), Brassica insularis, Garrya elliptica and other naturally winter-flowering plants have never been finer, and a source of great enjoyment. Iris unguicularis and Chimonanthus must have prepared for this flowering early in last season, and are noteworthy, as their free production of flowers is usually associated with a previous hot summer. Thus it appears to me that a dry spring hastened the ripening of certain plants, early frosts deceived them with false hopes of troubles past, and an unusually mild December gave them no further warning of troubles ahead.

Waltham Cross. E. A. BOWLES.

BOOKS.

Fruit-Growing for Beginners.*—The ranks of gardeners are constantly being augmented by beginners, and one of their many troubles is to find quickly information upon which reliance may be placed. Authors thoroughly conversant with all the multifarious details of their subjects are apt to take it for granted that the readers for whom they are writing are equally skilled in the rudiments, and the result is that what are elementary points to the experienced are omitted. It is particularly these that the tyro wants to aid him to establish his garden on a sound foundation. Far be it from me to blame the authors, since I have the honour to take humble rank with them, and have probably found as many pitfalls as the majority—very possibly more than the minority—and, so doing, have failed in some degree of my duty.

The author of "Fruit-Growing for Beginners," Mr. F. W. Harvey, F.R.H.S., Editor of THE GARDEN, has made no mistakes in the direction indicated, because he has taken nothing for granted. It is true that he wanders into error in the second and third lines of his Preface, when saying that there is no handbook on fruit culture suited to the needs of the amateur. Filial duty, with honesty of opinion, compels me to say that "Profitable Fruit-Growing" is essentially a book for the novice, and my father's name will be honoured by posterity as its author. But, after all, it matters little what is said in a preface, since no one reads it other than the one who is anxious to find fault or to seek an excuse to grumble about a point which has no practical importance.

Mr. Harvey, then, sets himself to teach the principles which underlie successful fruit culture, and he admirably succeeds in his task. He has achieved the distinction of getting right down to his subject, with the result that no detail has been passed over as too insignificant for statement. He has fully appreciated the fact that the grower who has once learned the small points has set his feet firmly on the threshold of success. Too many amateurs who become imbued with the love of gardening rush ahead without thought or consideration, and, later, wonder why failure has been the end of their efforts. The best advice that I can give those who are about to essay the art of fruit-growing is diligently, intelligently and repeatedly to study Mr. Harvey's simple words of wisdom, because their reward, provided, of course, that they proceed with scrupulous exactitude mixed with the common-sense with which they are endowed, must be gratifying success. The man who could fail under such instructions as are given in this book would, indeed, be clever in his stupidity, so clearly and forcibly are the fundamental principles set forth in its 124 pages.

"Fruit-Growing for Beginners" resembles other books in that it is arranged in chapters, each treating of some particular phase of its subject; but it differs from many, probably from most, in having a tail to every chapter, in which its burning point—might I say its sting?—is summarised. For example, who will venture to dispute the truth of any one of the following facts or statements? "Grow your own fruit. It will be better than any you can buy. Nurserymen will be pleased to supply trees for large or small gardens. The beginner should not attempt at the outset, before he has gained some practical knowledge, to grow fruit on a large scale. Start with a few kinds and master the cultivation of these first."

There are exhaustive chapters on soils, sites, propagation, forms of trees, planting, staking, pruning, mulching and manuring, all dealing with generalities; while subsequent chapters treat specifically of Apples, Pears, Plums, Cherries, Peaches, Nectarines, Apricots, Gooseberries, Currants, Blackberries, Raspberries, Logan and kindred berries, Figs, Medlars, Quinces, Mulberries, Grapes and Nuts, so it is abundantly clear that nothing has been omitted. Beyond these there is a chapter on the insect pests and fungus diseases to which the fruit trees of our gardens are heirs. This is so important a phase of the subject that it might have been amplified to advantage. Severe compression has forced the omission of such remedies for American blight as the application of linseed or sweet oil, and of Hellebore powder against the Gooseberry caterpillar. But perhaps these criticisms are a little captious. Throughout the whole of the 124 pages which comprise "Fruit-Growing for Beginners" there is sound advice, which might be followed with much benefit by many old as well as young growers. The several illustrations are on all fours with the letterpress—practical instructive value has been allowed to overwhelm mere ornamentation. — HORACE J. WRIGHT.

* "Fruit-Growing for Beginners," by F. W. Harvey, F.R.H.S.; price 1s., or in stout cloth covers 1s. 6d. net. The *Country Life* Library, 20, Tavistock Street, Covent Garden, London, W.C.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Sweet Pea Number.—Our next issue, dated February 1, will contain a number of special articles on Sweet Peas, and these will deal with several little-understood phases of Sweet Pea cultivation. There will also be included a coloured plate of four of the best Sweet Peas of to-day and some unique photographic illustrations of Sweet Peas. As there is sure to be a large demand for this issue, we advise readers to order in advance any extra copies they may require. The price will, as usual, be one penny.

Tulip Vermilion Brilliant.—It is difficult to understand why this Tulip is not more extensively grown in pots for forcing into flower early in the year. Compared with the Duc Van Thol varieties, which appear to find so much favour, it has much to commend it. The flowers are of deep rich colour, are borne on long stems, and last in good condition for a much longer period than the Duc Van Thols. Although its habit is rather stiff, this is not noticeable when the plants are arranged with a few small Ferns or other foliage plants.

An Annual for a Sunny Spot.—Now that seeds of annuals are being ordered, it may be useful to draw attention to the Sun Plant, Portulaca grandiflora, which is an ideal, low-growing flower for the hottest place in the garden. It delights in well-drained, rather sandy soil, and seeds are best sown towards the end of April or early in May where the plants are to flower. There are single and double flowered forms, and both are usually sold in mixed colours, some of which are very brilliant. The plants are quite procumbent, have fleshy leaves and quickly form a carpet.

A Little-Known Dianthus.—There is a charming little Mountain Pink known as Dianthus microlepis, which is seldom seen in gardens and rarely mentioned in horticultural works. The flowers are carmine red and the plants dwarf and tufted, not unlike D. glacialis in miniature, although it is quite distinct from that species. It occurs in the mountains of Thrace and Bulgaria at fairly high altitudes. There is also a white form, but this is seldom found in the wild state. When better known, D. microlepis bids fair to become a popular alpine plant.

A Useful Winter Shrub.—One of the most interesting shrubs during the winter months, and one that is not sufficiently grown, is Cassinia fulvida. At the present time its golden leaves, minute though they are, make quite a warm and pleasing feature in otherwise dull surroundings. It is a quick-growing and rather ungainly shrub, but this defect can be remedied by occasionally pruning back the too venturesome growths in March. Anything like formality must, however, be carefully guarded against when pruning. This shrub was at one time known as Diplopappus chrysophyllus.

A Valuable Timber Tree.—It is not generally known that Catalpa cordifolia (which is sometimes regarded as a vigorous form of C. bignonioides, or Indian Bean Tree) is valued by reason of its wood having the remarkable power of resisting decay when in contact with earth or water. The following observation is made by Sargent: "The trunks of Catalpa trees killed by the sinking and subsequent immersion of a large tract of land near New Madrid, Missouri, which followed the earthquake of 1811, were standing perfectly sound 67 years later, although all their companions in the forest had disappeared long before." Catalpa wood is well adapted for railway sleepers, gateposts, &c., but so far Catalpas have only been grown in this country as ornamental flowering trees.

A Beautiful Heath.—An interesting group is formed in the greenhouse at Kew by several kinds of Ericas and various Australian shrubby plants, but E. melanthera is the most conspicuous subject, for it is represented by specimens 3½ feet to 4½ feet high, which are flowering from base to summit. Grown in a different way to that usually adopted for Ericas, they have been allowed to attain their present height practically unchecked; thus they are very narrow in comparison to their height, the side growths nowhere being more than from 6 inches to 9 inches in length.

The Rev. W. Wilks.—We are pleased to be able to announce that a movement is on foot to present a testimonial to the Rev. W. Wilks, secretary of the Royal Horticultural Society, as an appreciation of his services to horticulture during the past twenty-five years. As we pointed out in our issue for December 28, 1912, Mr. Wilks has been secretary of the society for that period, and during that time has done a vast amount of good work for the society and horticulture generally. Subscriptions towards the testimonial are invited from Fellows of the society, such subscriptions not to exceed £1 1s. All cheques and postal orders should be sent to the Manager, the London County and Westminster Bank, Victoria Branch, Victoria Street, Westminster, and should be crossed "Wilks Testimonial."

The Purple-Leaved Plum.—It is usual for this tree to blossom towards the end of March, but this year many flowers were open during the first week in January, thus making a companion for the early-flowering Almond, Prunus davidiana, which often opens its flowers towards the end of January or early in February. Both these trees require planting against a background of Pines, Arbutuses, Evergreen Oaks, or some other evergreen to be seen to advantage, otherwise much of the effect is lost. A group of the Purple-leaved Plum was noted recently near a cluster of Pine trees in the Arboretum at Kew, and the effect of the white flowers and dark foliage was very pretty. An undergrowth of variegated-leaved Dogwood makes this particular group attractive during summer also.

CORRESPONDENCE.

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

An Old Oak at Hampage Wood.—I am enclosing a photograph of an old Oak, called the "Gospel Oak," which stands in Hampage Wood, near Avington Park, Alresford, Hants. Local tradition supposes St. Augustine to have preached the Gospel under it, and this legend would seem to be supported by the story of Bishop Walkelin sparing the Oak when he felled the whole of the remaining timber in Hampage Wood for the rebuilding of Winchester Cathedral in the year 1079.—E. G. S. [Unfortunately, the photograph sent by our correspondent was not sharp enough for reproduction.—ED.]

A Delightful Netted Iris.—At the time of writing (January 16) the charming variety of Iris reticulata known as histrioides is in full bloom. The flowers are deep blue in colour and a shade deeper, almost purple, in the falls, with cream markings radiating from a golden line running down the centre. Since the flowers are produced in little tufts near to the ground, it seems to suggest that it would be an admirable subject for intermingling with yellow Crocuses now coming into bloom. It is one of the daintiest of January flowers, showing a preference for a light soil and sheltered position.—Q., *Surrey*.

The Sweet-Scented Verbena.—The valuable article by Mr. E. Beckett on "The Best Shrubs for Low Walls," on page 15, January 4 issue, mentions the old Sweet-scented Verbena, Aloysia or Lippia citriodora. Mr. Beckett justly says that this is well worth a position on a wall, giving shelter from hard frosts in winter. Even in Scotland, though in the milder parts, it will stand the winter fairly well on a wall; but it is greatly helped by having a glass coping over it—a valuable protection for many tender subjects. Where glass accommodation is limited, it is an advantage to know that the Sweet-scented Verbena can be grown on a wall.—S. ARNOTT.

Daisies Flowering in Scotland. I send you some Daisy plants in full bloom. They have now been blooming here fully two months all over our lawn, in spite of very severe frosts at times during this period and some snow. We stand very high on a hill on the northern bank of the river Tweed, and are much exposed to northerly, westerly and southerly winds. Our gardener thinks, with me, that this blooming of Daisies thus far North at such a time of year may be of sufficient interest for you to mention it in THE GARDEN.—(Mrs.) F. M. J. BAXENDALE, *Bemersyde, St. Boswells, N.B.* [The plants sent by our correspondent were flowering very freely. This is not unusual in the Southern Counties of England.—ED.]

A BEAUTIFUL DWARF EARLY FLOWER, IRIS RETICULATA HISTRIOIDES, PHOTOGRAPHED OUTDOORS ON JANUARY 16.

Rose Sarah Bernhardt.—I am glad your worthy correspondent "Danecroft," on page 30, issue January 18, finds some of my notes on the newer Roses amusing. I could hardly expect that *he* would find them instructive also. He does not consider I am justified in stating that the trade has overlooked this Rose, and in order to prove they have not he states that he knows as a fact that two well-known firms have listed it since 1908, and that he himself has exhibited it for the last four seasons. A gross total of three nurserymen! To which I can only reply, But what are they among so many? My statement was not founded on catalogue knowledge. Since 1906, when I think Sarah Bernhardt was introduced (not 1908) I have visited scores of Rose nurseries, and I only remember finding Sarah Bernhardt in one of them. I am truly sorry if I have hurt the feelings of anyone in the trade; but I submit for a Rose introduced in 1906 to have to wait until 1912 before it finds its way into such recognition as three catalogues would give it, surely justifies my statement that it has been overlooked. But we are both agreed that Sarah Bernhardt is a good Rose that should be more grown.—HERBERT E. MOLYNEUX.

Old Cyclamen Plants.—I agree with you about the longevity of Cyclamens. I have grown old Cyclamen corms for many years, and have at the present time a nice batch of plants in flower. Some of them are fourteen years old, and annually produce eighty to a hundred flowers on each plant. The corms should be carefully ripened after flowering, as I think next season's display depends on this. They should not be shaken out or repotted until the corms break into new growth. Then they should be carefully cleared of decayed stalks and potted into smaller pots than those in which they last flowered. Do not throw them aside like an old broom after they have given you so much pleasure. Treat them kindly, and they will repay you for all your trouble.—WILLIAM DRIVER, *Slonchouse, Gloucestershire*.

—— In your last issue, page 29, you have a note as to the age of some corms of Cyclamen persicum, and mention one plant which you know to be of the age of twenty-five years, asking if this can be beaten. I do not know about C. persicum, but there is a corm of C. neapolitanum in this garden, brought here by my late father, which must be at least forty years old, and which still annually bears a profusion of flowers. I measured it last autumn, and it is about eight inches in diameter.—F. HERBERT CHAPMAN, *Rye*.

A National Daffodil Society.—I was very glad to read a letter on the above subject in your issue of the 4th inst., page 2. The formation of such a society, it seems to me, has been too long delayed, and should not be further postponed, for the Daffodil and its cult is developing with remarkable rapidity, and in the interests of the trade and lovers of the flower alike it is most desirable that a society should be formed to look after its many interests, just as the Rose, Sweet Pea and other societies have been formed for a like purpose, and with excellent results. In your issue of February 18, 1911, pages 74 and 75, you were good enough to publish a letter of mine on this subject, and from conversations I have since had with those interested in the Daffodil, I am convinced that such a society has but to be started under good auspices to be successful. But in this, as in all else, it is a case of "It is the duty of leaders to lead"! Will not those many well-known heads of the Daffodil world put their shoulders to the wheel? If they will but do for the Daffodil what Rose-growers and Rose-lovers have done and do for the Rose, I feel positive that the "small fry," of whom I am glad to count myself one, will heartily back them up. There are many, I know, who feel, as I do, that the Daffodil is too important a flower to be run as a "side-show," even by so excellent and powerful an institution as the Royal Horticultural Society. A "Conference of the Powers" could easily be arranged if only one of the "big-wigs" would take the necessary steps. Who will carry the flag?—A. C. CARNE ROSS, *Brecon*.

Iris tingitana Flowering Outdoors.—It may be of interest to your readers to know that I picked on the 8th inst. in the open a bloom of Iris tingitana. I have two other buds showing colour. This is quite the earliest date on which I have seen this Iris in flower.—H. G. HAWKER, *Strode, Ivybridge.*

Omphalodes verna Flowering in December.—Among the lists of plants given as flowering especially early this winter, I have noticed no mention of Omphalodes verna, a plant of which I saw in full bloom in a garden near here on December 21, 1912, growing in a shaded border with a western aspect.—MAUD GLYN, *Albury Hall, Much Hadham, Herts.*

Malmaison Carnations.—The article by Mr. Allardice on these Carnations, page 651, issue December 28, Vol. LXXVI., had three most interesting and instructive points: (1) The unusual layering material employed; (2) his saline preparation for improving the foliage; and (3) the pinching or stopping back system adopted. It has been my lot to work in two very large establishments where some hundreds were yearly managed, but in neither did we practise points one and two, though point three was most successfully followed in one of the gardens. From personal observations and enquiries made, I am inclined to believe very few gardeners have ever tried the experiment.—C. T.

Iris stylosa.—I have picked fully ninety blooms from my two small clumps since November, and there are plenty more to come. I am rather surprised, because last summer was a wet one; but I think the three hot weeks in July effected the necessary ripening of the plants, which are close up to the wall of the house facing west, where they have been for seven years. I never divide or move them; I keep them as dry as possible; I never manure them; I just leave them alone. I think May and June are the months to make a fresh planting. No flowers must be expected for the first year after planting or moving.—H. W. PRICE, *Amblecote, Cobham, Surrey.*

Viola florairensis.—The note by M. Correvon on Viola florairensis, page 11, January 4 issue, should be welcomed as drawing notice to one of the prettiest and most useful of the small alpine Violas. I first saw it last summer in the wonderful rock garden of Sir Frank Crisp at Friar Park, Henley, and was much pleased with its beauty there. Mr. Knowles, who has a thorough knowledge of the plants under his charge, had a very high opinion of V. florairensis. It seems to have a good deal of the character of one of the parents, V. rothomagensis, but improved by the influence of V. calcarata. As a rock garden plant V. florairensis is much superior to many of the other hybrids we see and hear so much about.—S. ARNOTT.

The Manetti Stock for Roses.—Just now is what one may term the holiday season for the Rose-grower and at such times he is open to discuss matters that, if mooted during the summer, would probably be allowed to pass unchallenged. I must confess I have been a strong opponent of the Manetti stock, but I think, in justice to an old friend, one must give it its due. In November last I saw a grand bed of Richmond almost in full bloom. The plants were only planted in the previous autumn, but they were evidently quite happy and growing luxuriantly in a deep soil of a strong clayey nature. Now, these plants were on the Manetti! It was not the first occasion I had noticed the superiority of this variety when grown upon the Manetti. As a maiden I have had superb flowers of Richmond from the Manetti. Another Rose equally grand as a maiden on Manetti is Lady Ashtown. Last summer I thought I would try some of Messrs. A. Dickson's fine novelty, Mrs. Walter Easlea, on the Manetti, as upon the seedling Briar the growth did not satisfy me. I was rewarded with splendid plants, and by disbudding freely splendid show blooms resulted. This is no news to the Rose man, but he will say, "How about the Manetti for cut-back plants?" This is what I want to ascertain. Have any readers found any special sorts superior as cut-backs on Manetti stock? If so, they would be rendering rosarians some service if they would name the sorts and the soil they were growing in. This question of stocks is a very important one, and I wish the National Rose Society, when they issue their new official catalogue, would give us some reliable expert opinions upon the best stock for each variety.—DANECROFT.

FORTHCOMING EVENTS.

January 28.—Royal Institute Meeting. Lecture by Professor W. Bateson.

January 31.—Beckenham Horticultural Society's Meeting and Lecture.

February 1.—Société Française d'Horticulture de Londres Meeting.

GARDENING ACROSTICS.

As announced in our issue for December 14, 1912, we are publishing a series of eight acrostics based on gardening or simple botany. Prizes of £3, £2 and £1, respectively, will be awarded to those sending in correct solutions of all the acrostics. The names of those who have correctly solved the problems will be published from week to week, and the final list of prize-winners in our issue of February 15. In all cases the Editor's decision must be final. The solution to Acrostic No. 6, which appeared last week, will be published next week, and the solution to No. 7, which is printed below, will be published in our issue dated February 8. For full rules governing the competition readers are referred to page 623 of our issue for December 14, 1912.

DOUBLE ACROSTIC No. 7.

Written about by Andrews; grown by the Loddiges; sometimes in favour, sometimes not. Grown indoors and out of doors.

My firsts are my English name, and my lasts that given me by Pliny.

1. Sometimes a "Rose," sometimes a "bear's foot."
2. A method of training fruit trees.
3. As good as Ivy and cleaner.
4. Frequently put into pots—best when turned over as I must be.
5. Mahomet's Flower of Paradise.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than February 1. Mark the envelope "Acrostic" on the upper left-hand corner.

SOLVER OF ACROSTIC No. 4.

ONLY one competitor correctly solved Acrostic No. 4. This was the Rev. J. E. Gardiner. We would remind readers that in the event of no one correctly solving all the acrostics, the prizes will be awarded to those who send in correct solutions of the greatest number.

*** *The names of those who have correctly solved No. 5 will be given next week.*

SOLUTION AND NOTES OF ACROSTIC No. 5.

"MORAINES — GENTIANS."

* 1.	M	ALPIGHI	G (rew)
† 2.	O	RANG	E
‡ 3.	R	API	N
§ 4.	A	PRICO	T
‖ 5.	I		I
¶ 6.	N	IGELL	A
** 7.	E	MMERTO	N
†† 8.	S	IGNATURE	S

* Malpighi, an Italian, and Grew, an Englishman, both of whom lived in the latter half of the seventeenth century, are styled "co-founders of the science of Plant Anatomy."—See "Makers of British Botany," page 44. † Orange trees were very highly esteemed 200 to 300 years ago.—See "Systema Horticulturæ," by Wooldridge (Worlidge), fourth edition, page 138. An Orange tree was a "Green." ‡ Rapin, a French Jesuit, wrote a Latin poem on Gardens in four parts, Flowers, Trees, Water and Orchards. This was translated into English by James Gardiner in 1718. § Loudon in his Encyclopædia (fourth edition, page 719), quotes Martyn as suggesting the derivation of Apricot from "a Præcox," then with usage "Apricocks"—now Apricots. It was once looked upon as an early Peach. "Seed of the Sun" is a Persian name, and one can easily see its appropriateness. ‖ Botanists have now agreed that "ii" should be used in terminations. ¶ For some of the aliases of Nigella (a diminutive of niger, black) see "Annual and Biennial Garden Plants," by A. E. Speer. The seeds are small and black. ** Emmerton was a famous grower of Auriculas, and wrote a treatise on them, which was published in 1816. †† For the "Doctrine of Signatures" see Agnes Arber's "Herbals," Chapter VIII. Such names as Adder's Tongue, Eyebright, Lungwort and Liverwort have been given for the medicinal properties the plants were said to have. Why they should have such names is explained by their "Signatures."

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. For rules governing this competition see issues for January 4 and 11.

SCIENCE IN RELATION TO HORTICULTURE.

DURING recent years science has played a very important part in the progress of horticulture, and we propose to publish from time to time, under the above heading, particulars of recent scientific investigations. These articles will be written by Mr. D. Houston, F.L.S., Agricultural Biologist at the Royal College of Science for Ireland. Mr. Houston has for many years been keenly interested in science as applied to horticulture, and is able to write about it so that the average reader can understand what is meant.

Rust in Hollyhocks.—Professor Eriksson, a Swedish botanist, has been investigating the life-history of the parasitic fungus that causes "rust" in Hollyhocks and Mallows (Puccinia Malvacearum). The disease is a very troublesome one to gardeners, so much so, indeed, that the culture of Hollyhocks is not even attempted in some gardens. The disease came originally from South America, from which it spread to "the States" and to Europe. Everyone knows the disease, and that the rust patches represent little ruptures in the skin of the host plant filled with the spores technically known as "teleutospores." In most cases, in other plants where teleutospores are formed they hibernate during the winter, but in the present case they can germinate at once, and so propagate the disease during the whole of the growing season. This is one reason why the disease spreads so rapidly. According to Eriksson, the spores cannot survive the Swedish winters, neither can the vegetative mycelium of the fungus existing in the plant. How is the disease propagated, then, from season to season? Eriksson says that the source of infection is from the seeds. His belief is that the living matter of the parasite mixes with the living matter contained in the cells of the Hollyhock, and that when the seeds are harvested the parasite is dormant in the seeds. As the seeds germinate in the spring, the fungus also awakens into life, and when the plants reach the age of three months the mycelium of the pest invades every organ of its body and breaks out into rusty eruptions all over the plant. It should be added that this idea of Eriksson's is not universally accepted by working botanists, as a belief is held by some that the surface of the seeds gets contaminated with the microscopic spores, much in the same way as seed grains get contaminated with the spores of smut. In any case, it is clear that gardeners should pay close attention to the origin and character of the seeds of all malvaceous plants before they venture on sowing them.

Explosives as an Aid to Gardeners.—The use of explosives as helpful agents in laborious tillage operations is at present engaging the attention of cultivators. Cartridges containing a comparatively safe explosive are inserted at suitable depths in the soil to be disturbed, with the result that after the explosion the deep subsoil is cracked and fissured, and the upper soil reduced to powder through the sheer violence of the shock. Experiments, for example, have been successfully carried out in heavy, wet soils expensive to work under ordinary methods of cultivation. The work was most effectively done and at a relatively low cost. The advantages claimed for the method are: 1. It so displaces the soil that it alters its physical character, rendering it more suitable for the roots of cultivated plants. 2. By fining the soil it materially increases its water-holding powers. 3. In the case of wet lands it improves the drainage by forming deep fissures in the subsoil. 4. In the work of planting fruit trees, holes can be rapidly formed and the upper soil and subsoil considerably improved as a medium for root development. In old orchards also the soil can be opened and improved. 5. Other work, such as the excavation of ditches, can be easily carried out by the explosive method. The kind of explosive recommended is a safety one, having as its base the nitrate of ammonia made by the Favier Explosives Company of Vilvorde, near Brussels. Gunpowder is not strong enough, while gun-cotton and dynamite are too dangerous. The "safety" type contains at least 80 per cent. of nitrate of ammonia, and being in itself a valuable plant food, it contributes to the fertility of the soil.

Feeding Carnations.—An interesting series of experiments with artificial fertilisers in relation to Carnation culture has been carried out recently at the New Hampshire Agricultural Station. Recognising the commercial interests involved in the cut-flower trade, the objects of the experimenter (D. Lumsden) were, first, to discover the relative value of certain fertilisers applied as a top-dressing to Carnation plants grown under glass, and, secondly, to determine if differences in manurial treatment affect to any appreciable extent the keeping quality of the cut blooms. It will be unnecessary to describe the experiments at length, but the tests were carefully arranged and strictly carried out. The fertilisers used were (among others) bone-meal, nitrate of soda, muriate of potash, fowl-manure and Clay's Fertilizer. The bone-meal gave the best results. Its action was much slower than that of the nitrate, but the plants were more vigorous and the keeping properties of the cut flowers markedly superior to any of the other manures used. Clay's Fertilizer was the second best with respect to keeping quality. It was quicker in action than the bone-meal. Fowl-manure, when used in small quantities, came third, but used in excess was distinctly harmful, as it induced a rapid but weak growth and greatly shortened the keeping period of the cut flowers. Muriate of potash produced good-keeping blooms, but it was not nearly so good on the whole as the three already named. Nitrate of soda produced the least satisfactory results. The plants responded very quickly at first, but eventually they showed less vigour, and the cut flowers lost their freshness much sooner than the others.

D. HOUSTON

Royal College of Science for Ireland, Dublin.

ROSE MRS. MACKELLAR, A NEW HYBRID TEA OF GREAT PROMISE.

ROSE GARDEN.

ROSE MRS. MACKELLAR.

THIS charming Hybrid Tea bids fair to become popular when better known. In colour it is of a creamy yellow tone, possessing the precious gift of fragrance. It carries a large bloom of good substance, the form of which is clearly depicted in the accompanying illustration. It is one of many superb varieties for which we have to thank Messrs. Alex. Dickson and Sons, Limited, Newtownards, County Down, and was shown in September last before the Royal Horticultural Society with two other new Roses, viz., George Dickson and Edward Bohane, each of them being honoured with an award of merit. The Rose under notice is named after the wife of Mr. A. Mackellar, V.M.H., the well-known head-gardener at the Royal Gardens, Windsor.

SOME OF THE NEWER DECORATIVE ROSES.

(*Continued from page 32.*)

Dorothy Ratcliffe (S. McGredy and Son, 1911), Hybrid Tea.—One of the first of the British-raised Roses to have as one of its parents one of the pernetiana Roses; and the first, one has little doubt, of a large army that will vary and be of all colours possible to Roses. Here we have a slight resemblance to Lyon Rose, but the plant is a better shape and a better grower, and has not the bad habit of defoliation that spoils Lyon Rose as a bedder. The flowers are of good shape; colour variable, coral red, shading to fawn yellow as the flower ages. It received the silver-gilt medal of the National Rose Society at the autumn show in 1910, and should be extensively planted by those who like the Lyon colouring, but do not like its "manners and customs."

Ethel Malcolm (S. McGredy and Son, 1910), Hybrid Tea.—A good garden Rose and fragrant; fully described under "Exhibition Varieties."

Evelyn Dauntesey (S. McGredy and Son, 1911), Hybrid Tea.—I was very pleased with this Rose in my garden last year. Notwithstanding the wet of the autumn, it opened well and freely. It is quite a good grower, of excellent habit; colour, soft salmon, outside of petal a deep carmine rose, and the flowers were freely and continuously produced; delightfully fragrant. As a bedder I can strongly recommend it, as the colour is warm and distinct. One hesitates to call it an improvement on La France, but it is reminiscent of that grand old variety, and certainly does not ball in damp, wet weather. The flowers come with a good point, and the petals reflex like La France, but are much deeper in colour, more like Grand Duc A. de Luxembourg. It was the first Rose to receive the silver-gilt medal of the National Rose Society, awarded for the first time at the "National" at Regent's Park in 1910, and I hope all silver-gilt medal Roses will equally well deserve the award as Evelyn Dauntesey has proved she did. I see the last "e" is generally left out, but I have ascertained that as printed at the head of this note is the correct way of spelling the name.

Eugene Boullet (Pernet-Ducher, 1910), Hybrid Tea.—I should say an Etoile de France seedling with a little more crimson in the flower. It opens (as well it might) very much better than that disappointing Rose, is a good grower, and very free-flowering all through the season. A crimson red, with a certain amount of purple in the older flowers. One of those Roses that will not be wanted for long, as it is bound to be improved upon as far as colour goes.

Ferniehurst (Alex. Dickson and Sons, 1911), Hybrid Tea.—A garden Rose of much promise as well as an exhibition variety, under which heading I have already described it.

Florence Haswell Veitch (William Paul, 1911), Hybrid Tea.—A Rose that has been very strongly recommended to me as a splendid garden Rose, of good colour and very fragrant. It is vigorous enough in growth to be called almost semi-climbing; good scarlet, and likely to be very useful. I have not flowered it, so am only passing on information which I, however, believe to be reliable.

George Reimers (Soupert et Notting, 1910), Hybrid Tea.—A good-coloured scarlet that will be useful, though for a short time only. A fine grower and bedder, not a bad shape, with a good long bud. I am afraid the life of many of our new Roses will be very short, here to-day and gone to-morrow. The progress that is being made is so rapid that they will be quickly superseded.

Herzogin Marie Antoinette (Jacobs, 1911), Hybrid Tea.—This was one of the best of the Continental varieties that I tried in 1912. I did not see it in any of the nurseries I visited, and the only catalogue I have been able to find it in is that of Messrs. Alex. Dickson and Sons It is undoubtedly a lot better than many others that are being grown and catalogued. It only for its colour it is worth a place. I heard of it from a Continental correspondent, and he thought very highly of it and told me it had received quite a number of awards. It is a yellow of a good deep shade generally called orange, fading to an old gold. It is very fragrant, with strong Tea perfume, and a good grower. Reminiscent of Marquise de Sinety at its best.

James Ferguson (William Ferguson, 1911), Hybrid Tea.—A Scotch-raised sport from Caroline Testout, of a beautiful silvery pink shade; identical in every other respect. It was awarded a silver-gilt medal at the National Rose Society's autumn show at Vincent Square in 1910. It is certainly a lovely colour, paler than Mme. C. Juranville, and the only other sport of Caroline Testout that I think worth growing.

Jonkheer J. L. Mock (Leenders, 1910).—See "Exhibition Varieties."

Southampton. HERBERT E. MOLYNEUX.

ROCK AND WATER GARDEN.

THE MOUNTAIN AVENS.

(DRYAS OCTOPETALA.)

THIS beautiful plant is, unfortunately, not too generous with its creamy, Rose-like flowers when growing in our gardens, no matter how carefully we humour it. In the mountains, however, it is one of the most universal of alpine plants, and seems equally happy on either limestone or granitic formations, provided it has full exposure to sunshine and root moisture during its growing season. At elevations ranging from 5,000 feet to 7,500 feet this Mountain Avens makes glorious, spreading patches of verdure many feet across, which in June and July become sheeted with the pale cream, eight-petalled flowers rising just above the foliage. So plentifully are these yellow-eyed, Rose-like blossoms produced that the foliage is often in danger of being overlooked. When above Zermatt during July last I came upon whole hillsides clothed with this lovely plant, mingling on the sloping banks with Primula farinosa, Soldanella montana and Pinguiculas. Here, though the chief flush of the flowering season was past, I secured the accompanying photograph, which gives some idea of how decorative a plant the Dryas can be when well flowered. From observations in the mountains I believe success would more surely attend our efforts in the lowland garden if we gave it the same extremely gritty, well-drained soil and sunny aspect in which it thrives in its native habitat, and also ample water from March to July. Possibly it would make a satisfactory moraine plant, since that situation would provide these various requirements in a large degree. REGINALD A. MALBY.

THE MOUNTAIN AVENS (DRYAS OCTOPETALA) IN ITS NATIVE HAUNTS ABOVE ZERMATT.

A RARE PRIMROSE.

(PRIMULA JURIBELLA.)

EARNEST enquiries have often sought of me the character and country of this very rare Primula. In the innocence of my heart I myself once derived its name mysteriously from "Jura," and believed it the especial species of that range. It was only quite by chance one day that in scanning a map of the Dolomites I came upon the word "Giur-bella," and instantly knew that my quest was ended. P. Juribella, in fact, takes its name from the Giurbella Alp (where, to the best of my belief, it does not grow), above the Val Travignolo in the Pala Dolomites, and is a hybrid (only, I believe, recorded here) between P. minima and P. tyrolensis. To know all this was to go there. The first year I had trouble in finding the hybrid, for the flowers were quite passed; but find it I did, and abundantly, on one little steep slope of a mountain whose turf was full of P. minima, and its limestone rocks with P. tyrolensis. Once seen, the leaf is never forgotten. Growing among P. minima it is much rounder, draws to an oval and is not glossy, but dull green, with glands that are its legacy from the extreme stickiness of P. tyrolensis. This season I went out again to see it in bloom; but the flower, I must confess it, disappointed me. There is a vindictive aniline note about P. tyrolensis which is so brilliant as to end by being impressive. To the hybrid, however, it gives a tone that is at once loud and feeble in its vulgarity. Then, having inherited the worst fault of its father, P. Juribella adds to it the thin and ragged outline that is the worst fault of the worst forms of minima, its mother. I am measuring P. Juribella, of course, by a very exacting test. In itself it is certainly a very bright, striking and splendid little plant. Unfortunately, this and some of the other hybrids with minima for one parent come up disastrously for comparison against such crashing beauties as minima itself, or gorgeous spectabilis, blazing tyrolensis, bland and melting Allionii, or the imperial violet loveliness of glutinosa. Few indeed of the hybrid Primulas can hope to rival the beauty of their progenitors. There is no question about floerkeana, Kellereri, Forsteri and Heerii; but if Juribella had ambitions to do so, it has not succeeded. I will only add that in the garden P. Juribella, like almost all the other hybrids, seems to show, as a rule, much more vigour and robustness than either parent under ordinary conditions of reasonable culture. REGINALD FARRER.

THE TREE PINK (DIANTHUS ARBOREUS) IN THE ROYAL GARDENS, KEW.

THE FLOWER GARDEN.

THE TREE PINK.

(DIANTHUS ARBOREUS.)

WHAT is probably the giant of the genus is the subject of the accompanying illustration. It has long been in cultivation, but has not met with the appreciation it deserves, this being probably due to the fact that it is somewhat tender, requiring to be given a warm, sheltered spot, such as the foot of a south wall, and to be protected during severe weather. A well-grown specimen in full flower is really a charming sight, as the flowers open in succession for a period of six or eight weeks. These are 1½ inches in diameter and variable in colour, from pink and rose to lilac, the lilac shades predominating among the plants raised from seeds. These had better be discarded and a stock raised of the rose or pink coloured varieties from cuttings, which are readily rooted under a bell-glass or hand-light in a half-shaded spot in the garden, when they should then be planted out direct into their permanent positions for flowering, as they are impatient of any interference with the roots when once they have reached their flowering size. The habit of the plant is that of a free-branching dwarf shrub, and, densely clothed with rich green or slightly glaucous leaves in all the upper parts of the stems, the flowers appear in July and continue in good condition until the end of August, while odd flowers continue to appear until October, with its accompanying frosts, checks all further display. From its freedom of bloom and branching habit it should make a valuable parent, especially if crossed with the Carnation or Pink; at any rate, I throw out the suggestion for what it is worth.

The plants depicted in the accompanying illustration were three and a-half years old from cuttings, and were each over four feet in height and about five feet in diameter in July. Under favourable conditions, such as obtain in the South-West of England and Ireland and on the South-West Coast of Scotland, the species would require little or no protection, and would rapidly form a large bush. It is a native of the Grecian Archipelago, also of the island of Crete, and is well figured in Sibthorp's "Flora Græca," t. 406. C. P. RAFFILL.

LILIES: A CAUSERIE.

(*Continued from page* 34.)

THE Nankeen Lily, L. testaceum, stands next in favour after L. giganteum in this garden. I wish all my readers had seen a group of some twenty or more 6-feet-high stems backed by some old Tree Ivies and next to a fine old specimen of Ceanothus Gloire de Versailles, which was in full bloom last July at the same time as the Lilies. The soft greyish blue of the Ceanothus was delightful as contrasted with the colouring of the Lily. Apricots stirred up with plenty of cream comes nearest to its colour of anything I know, for I never remember to have seen the Indian heroes of old who walked forth in nankeen breeches.

It evidently likes us, for the group in question began as six bulbs, and at every lifting since they have increased in a most satisfactory manner. They have had no special luxuries provided for them, but just the ordinary border soil, enriched, at the rare intervals when the border is turned out and replanted, with farmyard manure. For all its delicate beauty this Lily does not seem to object to a little strong feeding, provided the bulbs do not actually come into contact with the manure.

Its origin is wrapt in mystery. Some think it came from Japan, and Dr. Wallace stated, in his useful book, "Notes on Lilies," that he had "more than once" seen Japanese drawings by some of the best artists in Yeddo which strongly resembled it. Mr. Elwes, in the great "Lily Monograph," declares, on the contrary, that no such plant is represented among the Japanese drawings seen by

him. A recent work on Lilies gives 1846 as the date of its first recorded appearance, I think following a misprint in Dr. Wallace's book, for it was described by Lindley in the *Botanical Register* in 1842 as flowering in Rollison's Nursery at Tooting, and was figured in the following volume—that for 1843. It is there said to be of Japanese origin, and a frame or half-hardy bulb. But the best account of its appearance in Europe is that given by M. Van Houtte in Vol. I. of the "Flore des Serres." He tells how M. Haage of Erfurt found it, about the year 1836, in a bed of Martagons which had been sent to him from Holland, and that it was also in the possession of three amateurs at Lille, who each believed his the only stock of it. M. Van Houtte saw it in one of their gardens and greatly admired it, and not long after a quantity of bulbs were offered him from yet another source. All this appears to point to its origin as seedlings from an accidental crossing and the dissemination of the bulbs before they had flowered. This would accord with the generally-accepted opinion that it is a hybrid between the Madonna Lily, L. candidum, and the scarlet Turk's-cap, L. chalcedonicum. Its colour certainly suggests this combination. Having no wild home from which collected bulbs can be torn, we are dependent on nursery increase for its supply, and that I take to be the reason of its still rather high price; but then, on the other hand, one is sure of getting home-grown bulbs. So I strongly advise its purchase and planting in as great numbers as the plumpness of one's purse admits. It certainly looks best in large groups, and is equally good at the back of a border among quiet, cool-coloured neighbours or standing out at the corner of a bed among dwarf plants. Dendy Sadler has so placed it in one of his charming pictures, but I fear by the costumes of the dear old couple sitting by it he has antedated its introduction to English gardens.

The Madonna Lily, L. candidum, is so well known that it seems a work of supererogation for me to write of it. But I do not think it is so generally appreciated as the fact deserves that there exists a poorer form of it called var. peregrinum, which is sometimes puffed up as being rare and a superior form. One claim made for it is that it is more disease-resistant than the ordinary form. It blooms rather later, has a purplish black stem and thin spidery flowers, very narrow in the segments, and not recurving so gracefully as in the well-known white Lily. I always feel a sense of disappointment when I see its starry blooms, and wish it could have been the form that was best beloved of the dread fungus Botrytis cinerea. It is figured by Sweet in the second series of the "British Flower Garden," t. 367.

There is also a so-called double form, in which the axis of the flower is prolonged and bedecked with narrow white segments arranged spirally. When strong and healthy and favoured with fine weather, this production of segments goes on for some weeks, and a long spike of them is the result; but usually the inner ones damp off and a singularly ugly decayed vegetable muddle is offered to view. It masquerades in lists at times under the names of var. spicatum, var. monstrosum or flore pleno. A very fine example of it was figured in THE GARDEN for September 14, 1912.

As to the best way to grow and how and when to plant this fickle, fair jade, I do not believe the same process, however carefully repeated, would produce a similar result in any one garden for certain. How can one advise others, then? Some say transplant as soon as the flowers fall; others, just before growth recommences—that is, of course, the autumn production of radical leaves so characteristic of this Lily. Doubtless both are right—sometimes. Some twenty-five years ago I ordered some white Lily bulbs to plant in a churchyard. They arrived on a frosty December day, and I well remember the hopeless spirit in which I broke up the hard-frozen top inch of soil to plant them and the unpleasant way that biscuit-like, stiff, frozen portion refused to be replaced in any manner promising comfort to the poor plants. Yet never have I known Lilies thrive more successfully nor increase so happily as those two rows. I think the success was due to their being English-grown bulbs, and that, though lifted at an awkward moment, they were not kept long out of the soil. The best advice, I believe, is to try all methods, and most probably the least reasonable one will succeed best. With a flower of this kind one never knows quite what is going to happen.

E. A. BOWLES.

(To be continued.)

THE THORN-LEAVED CRAB APPLE (PYRUS CRATÆGIFOLIA), A BEAUTIFUL SHRUB THAT FLOWERS AT MIDSUMMER. (*See page* 48.)

NOTES ON CHRYSANTHEMUMS.

BORDER PLANTS: SOME CHARMING VARIETIES.

GARDEN Chrysanthemums have become very popular during the last few years. The introduction of a number of new varieties of great beauty and dwarf habit has done much to make the border Chrysanthemum popular. Then, again, the deeper interest taken in the cultivation of the plants has had good results; they have been trained in a more natural form and given better positions. They have proved extremely useful not only in the vegetable garden, but also in flower borders, and yielded great quantities of blossom for the house vases. The earliest commence to bloom at the end of July, and there is a continuous supply without any protection until the frost comes.

How Cultivators May Fail.—Many cultivators have failed to get the best from these plants in the past through neglecting to deal with them in the winter-time. All cultivators are not situated alike. Some have cold frames available at this season; others do not possess them. Now, the latter should carefully examine the old roots (stools they are commonly called) and remove old stems, foreign matter and very weakly sucker growths. Then some fine sifted ashes must be neatly placed among the suckers and all round them to a depth of 2 inches. The ashes will protect the suckers from frost and slugs. Cultivators who possess cold frames may lift the old roots at once, and, after carefully dividing them, separating the strong young suckers which bear roots from the weakly

ones, transplant the former in the frame, 4 inches apart each way, in a bed of good sandy loam 4 inches deep. By the middle of April these young plants will be strong and branching and ready to be planted out in the borders again. In the meantime the border soil must be deeply dug and well manured.

Grouping to Secure Bold Effects.—A number of plants of the same variety should be planted together to form groups, especially in the case of broad borders. Where the borders are long and narrow, rows of distinct varieties look very well.

Yellow and Yellow and Bronze Varieties.—Cranford Yellow, Diana, Elstob Yellow, Etoile d'Or, Figaro, Jenny, Horace Martin, Harrie, Mrs. A. Thomson, Mrs. A. Beech, Leslie, Le Pactole, Arion, Polly, Tapis d'Or, Tonkin, A. Barham, Border Beauty and Cranfordia.

White Varieties.—Le Cygne, La Neva, Holmes' White, Hermine, Flossball, Emily, Dolly Prince, Caledonia, Bouquet Blanc, Mrs. W. J. Scott, Queen of the Earlies, Roi des Blancs, Savoie, Tapis de Neige, White Quintus and Auguste.

Pink Varieties.—Anita, James Bateman, Goacher's Pink, Gertie, Dolly Reeves, Lillie, Mabel Roberts, Mme. Aug. Nonin, Sally, Provence, Normandie and Mrs. Wingfield.

Crimson Varieties. — Roi de Precoces, Mrs. W. Sydenham, Mrs. E. V. Freeman, Wells' Crimson, Goacher's Crimson, Crimson Diana and Chaldon.

A Few Other Varieties.—Belle Mauve, mauve; Dolores, terra-cotta; Fedora, rosy lilac; La Somme, mauve and pink; Henri Yvon, rosy salmon; Mme. Marques, rosy white; Rabelais, rosy purple; and Mandarin, red on a gold ground.

The Propagation of Border Varieties. — In addition to the division already referred to, cuttings may be inserted about the end of February and during the early part of March. They form roots quickly at that time, and the resultant plants should be put out in the borders during May. AVON.

BORDER CARNATIONS AND MILD WEATHER.

BOTH young and old plants have grown wonderfully this winter in many gardens, but it is in no sense assured that they will be the better for it when the flowering-time comes along. The extraordinarily mild and open weather which prevailed for so protracted a period literally forced progress when, in normal seasons, the plants would be almost completely at rest. Sparrows, if no one or nothing else, have been the gainers, because the growths are sweeter and more succulent than is customary, and the birds have not failed to ascertain the fact. It is apparent that the plants will be ruined by these feathered pests unless threading is done promptly and efficiently. Use very strong black thread, make a perfect network round and above each plant, and no further trouble will be experienced. When the weather permits of it, the surface soil ought to be lightly pricked over with a planting fork, or even a bluntly-pointed stick, to encourage the admission of air; but it is necessary to guard against disturbing the roots, as this seriously prejudices the prospects of success. If it occurs through any cause, lose no time in properly refirming it. SENATOR.

THE THORN-LEAVED CRAB APPLE.

(PYRUS CRATÆGIFOLIA.)

AMID the wealth of handsome species belonging to the genus Pyrus, the subject of the illustration on page 47 must take a prominent place; for while the bulk of the cultivated species are dwarf trees, the plant under notice forms a fine free-flowering shrub, quite distinct in habit and general appearance from the rest of the genus. It further has the valuable characteristic of flowering about midsummer, when the bulk of the hardy trees and shrubs are over.

The stems are long, arching outwards, and wreathed with pure white flowers from top to bottom. These are about two-thirds of an inch in diameter and produced on short axillary clusters or leafy racemes, the flower-stalks being tinted with red. The leaves are 2 inches to 3 inches long, of a rich dark green colour, ovate or nearly round, and beautifully divided around the margins. The whole plant is so strikingly distinct and handsome, even when out of flower, that I confidently recommend it to all lovers of hardy trees and shrubs. It is a native of woods in the northern part of Italy, where it is a somewhat local and rare plant. C. P. R.

A HOUSE OF TOMATO MAGNIFICENT, A SEEDLING RAISED BY A READER IN THE ISLE OF WIGHT.

THE KITCHEN GARDEN.

HINTS ON FORCING ASPARAGUS.

THIS much-esteemed vegetable can be forced most easily. A gentle hot-bed is the one essential, and this should be made up of about half fallen leaves and half horse-manure. When enough has been obtained of each for, say, a two-light frame, which is, say, 9 feet by 7½ feet, the hot-bed should be made about one and a-half feet bigger all round, so that there is room to walk around and cut the heads, and this margin also allows of room to increase the heat if it should subside too quickly. The manure and leaves should be turned over several times to allow the rank heat to escape, when the bed ought to be made up evenly and firmly. Then the lights should be put on, and about three inches or four inches of fine soil spread evenly all over the surface of the manure, when the Asparagus roots should be placed on as thickly as possible. Another 3 inches of fine soil should then be placed over the crowns, or as much as will cover them, be it 2 inches, 3 inches or 4 inches. The roots should be procured at least three years old; if older so much the better; but if one has to buy the roots, three year old crowns must be obtained. After planting keep the lights fairly close, except for just a chink of air at the back of the frame to let off any vapour which may arise; but as soon as the heads appear, give more air. Cut when about five inches to six inches in length, and if not enough for a dish, the first cutting should be tied up neatly and placed in tins or saucers of warm water till the next morning. It is imperative that cutting should be done as soon as the heads are ready, as they quickly become drawn and weak. As soon as the Asparagus is finished, take out all the roots, burn them, fork up the soil, and add a little fresh soil.

Leonardslee. W. A. COOK.

A NEW SEEDLING TOMATO.

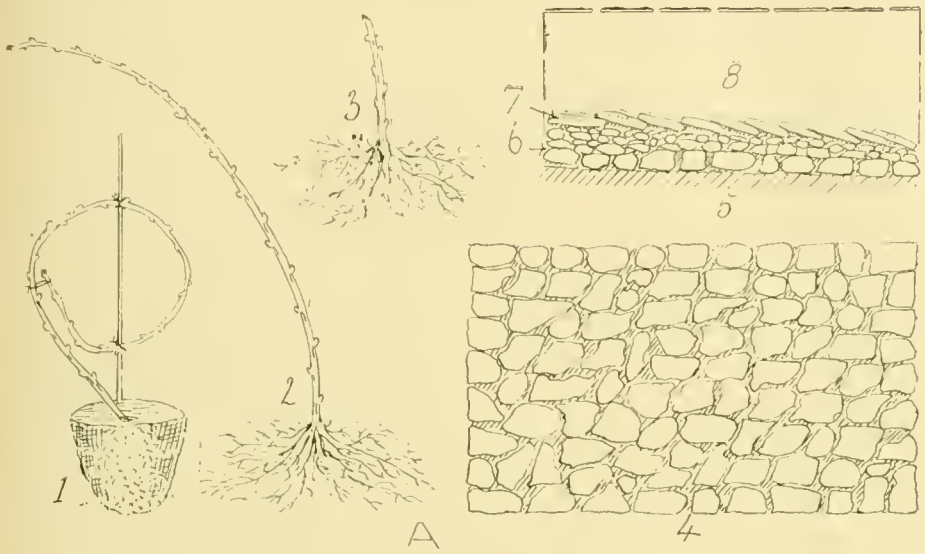
BEING a reader of THE GARDEN, I am sending you a photograph of a new seedling Tomato named Magnificent, which I have raised. There are fourteen plants in the border shown in the photograph. It is a splendid cropper, especially when grown in pots, the fruit being fleshy and of good quality.

Ryde, Isle of Wight. J. A. BARKHAM.

GARDENING FOR BEGINNERS.

HOW TO PLANT GRAPE VINES.

EVEN one Vine affords the amateur a great deal of pleasure when grown in an ordinary greenhouse with various kinds of pot plants. Very fine crops of Grapes are often obtained from such Vines, and when an amateur has succeeded in growing Vines satisfactorily in a greenhouse, he often wishes to have a properly-constructed vinery in which he can grow several varieties of Grapes. The Vines may be planted any time from December to May; in the first months while the buds are dormant, and in the later months after the new growth has commenced.



PREPARING INSIDE BORDERS AND PLANTING GRAPE VINES.

Good Positions for Vineries.—In every case some protection should be afforded against the north and east winds; trees, walls and belts of shrubs a short distance away afford the necessary shelter. Lean-to vineries must have a position facing due south. A span-roofed vinery must have one end facing the north and the other facing the south; then the Vines get the maximum amount of light and sunshine. If it is intended to plant Vines in existing houses, they should be trained under the glass roof which receives the greatest amount of sunshine.

The Drainage and the Border.—Although the roots of Vines require ample supplies of water, stagnant water in the soil is very bad for them, so that thorough drainage is essential. Where there is a natural slope away from the vinery, it will only be necessary to provide rough drainage material under the border itself; but in cases where the ground is almost level, or the border is constructed below the surface, drain-pipes should be laid from the bottom of the border to the nearest and lowest outlet. Stones, clinkers, chalk and broken bricks may be used to ensure the drainage of the border. A total depth of 9 inches of this material will be quite sufficient for the purpose. On the hard material put down, whole turves should be laid grass-side down before the main body of soil is put in. These whole turves will last for many years, and prevent the finer material being washed down and blocking the waterway. Fibrous turves, chopped into pieces about four inches square, should be used to build up the border. To the chopped turves add one barrow-load of old mortar rubble and one peck of half-inch bones to eight bushels of the chopped turves. No other kinds of manure should be added. A border of soil 2 feet deep will do nicely, and, where convenient, it may be constructed piecemeal; that is, a strip about four feet wide the first year, and then annual additions 2 feet wide until the whole space is filled.

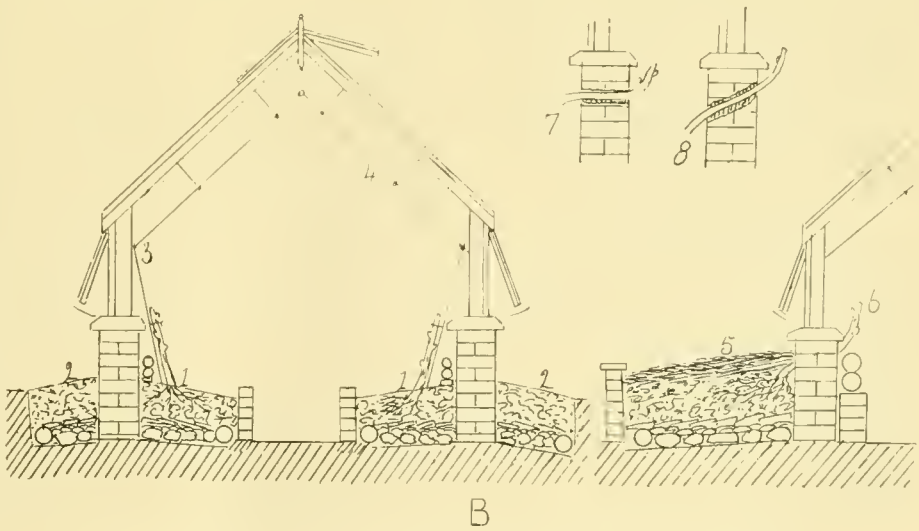
Planting the Vines.—Carefully turn out the balls of soil and roots from the pots, and remove the crocks and soil without damaging the roots. Spread out the latter evenly, cover them with the finer portions of the compost, 4 inches deep, and give a good watering.

Fig. A.—No. 1 shows a "planting" Vine turned out of the pot; No. 2, the soil removed from the roots; No. 3, the young Vine rod cut back to about fifteen inches of its base. No. 4 shows how the stones and bricks should be laid to form the drainage; No. 5, the section of the drainage material, namely, No. 6, the stones and bricks, and No. 7, the layer of whole turves; No. 8, the body of the border.

Fig. B.—Nos. 1, 1, Vines planted in an inside border, the roots being able to enter the outside borders, Nos. 2, 2, through the arched walls; No. 3, stake to support the young rod to the wires, No. 4. No. 5 shows how a Vine should be planted in an outside border, the surface of the latter being covered with straw in winter, and the rod taken through the wall at No. 6 and trained inside the greenhouse. No. 7 shows the wrong way to make the hole through the wall, and No. 8 the right way. G. G.

HOW TO IMPROVE LAWNS.

IT is a fact that lawns usually present a better appearance in January and February than later on when the cold east winds prevail. The grass very rapidly recovers its freshness, however, when the winds become warm and showers of rain fall. Many lawns are improved by surface dressings of rotted manure and such material as road scrapings, which contain plenty of grit. Everyone cannot procure such material, but they can purchase some bone-meal, and this is one of the best and most lasting of manures for a lawn. The latter should be well brushed with a half-worn broom on a dry day; then sow the bone-meal evenly, applying it at the rate of 4oz. per square yard, afterwards well rolling the grass. Do not again roll or brush the lawn until a good shower of rain has fallen; then roll several times, taking the roller in different directions each time before the surface gets quite dry again. After an application of bone-meal the grass grows freely, but not coarse; indeed, the bone-meal induces a much finer growth. This surface-dressing of bone-meal must be put on before the middle of February. B.



HOW TO MAKE AND PLANT INSIDE AND OUTSIDE VINE BORDERS.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Marguerites.—Those rooted in frames for bedding purposes have, owing to the mild weather, made rather more growth than usual. These should be potted off at once into suitable-sized pots and replaced in the frames, making sure that frost does not reach them. After they get well hold of the new soil, take out the point of each plant to encourage a bushy growth.

Calceolarias also are very forward in growth; but as it is somewhat early to pot up or replant these, all the air possible should be given them. Any decaying foliage should be removed, and if the plants are getting unduly long, take out the point of each plant, then by the time they have broken into growth they may be either potted up or replanted in cold frames, giving them more room.

Melianthus major.—This I look upon as one of our best subtropical bedding plants, and it deserves every care to get good specimens for planting out. Seeds sown in the autumn make good plants, and should now be ready for potting off into 4½-inch pots. They require very little heat—just sufficient to keep them growing steadily. Seed sown now will make nice little plants if pushed along quickly, but they are not so effective early in the season as the autumn-sown ones.

Abutilon Thompsonii.—These should be potted off out of the stove pots into 3-inch pots, transferring them later into 4½-inch or 6-inch. To secure good plants they should be grown on for a time in an intermediate temperature, taking care they do not get drawn by being placed too closely together, or it will rob them of their tendency to make side growths, which is so essential when they are used as dot plants.

The Pleasure Grounds.

Azaleas.—Beds of Azaleas do much better after they are well established if given a mulch of short manure, or manure and leaves mixed, during the winter months; so if not already done, it may be carried out at once.

Rhododendrons may be treated in the same way; and if old hot-bed material is to hand, it will suit them admirably.

Plants Under Glass.

Hydrangeas.—Select the most promising of last season's rooted plants and place them in a house with an intermediate temperature, and as soon as growth commences they may be assisted with manure-water. Being very gross feeders, they must not be neglected if good heads of bloom are wanted. Mme. E. Moullière, one of the newer French varieties, is a distinct acquisition, and may be had in flower during the greater part of the summer.

Schizanthus.—Pot these on into their flowering pots as soon as they are fit, using a fairly rich compost, a check at any time being very detrimental to the growth of these plants. Make a sowing in 3-inch pots as a succession to the autumn-sown plants. The retusus varieties in small pots are particularly useful during the summer months for grouping purposes.

Forcing Plants, such as Laburnums, Azaleas, Viburnums, Pyrus and Wistaria, force easily and well if placed indoors about this date, a temperature of from 55° to 60°, with a gentle spraying overhead two or three times each day, being all that is required to ensure success with them.

The Kitchen Garden.

Peas: Sowing Under Glass.—For very early work a sowing of first-early varieties should be made at once, either in pots, boxes or turves. Also for exhibition purposes it is advisable to sow a box or two of the best varieties; this ensures a dish or two during June if they are required. To ensure good germination and a stocky growth, a temperature of 45° to 50° is sufficient.

Broad Beans.—These also may now be sown in pots or boxes, and when the nature of the soil is such that they cannot be sown outdoors in the late autumn, this early sowing in pots will give a crop equally early.

Potatoes.—For planting in frames and for early crops on warm borders, the tubers should be spread out in trays and placed in a slightly-heated house, where they will soon break and make strong, robust shoots, which will, when planted, soon make headway. Sharpe's Victor, Sharpe's Express and May Queen are varieties that can be relied on for early crops. During bad weather all seed Potatoes should be picked out and placed in trays, as advised, and it might not be out of place to mention that Potatoes, more than any other crop, pay for a change of seed.

Fruits Under Glass.

Figs.—For very early work, pot Figs are probably more in favour than those planted permanently in the houses, as they can be rested somewhat earlier in the autumn; this being so, they respond more readily to early forcing. After thoroughly cleaning and top-dressing, if necessary, the pot trees should be started in a temperature of 50° to 55°, allowing a fair rise with what sun-heat there is during the day. A fairly humid atmosphere must be maintained by the use of the syringe, but too much water at the root is not necessary for a time.

The Hardy Fruit Garden.

Pruning Standard Trees.—After completely pruning the trees in the enclosed garden, those in the outside orchard should be taken in hand. Young trees do not need much done to them except the removal of branches which may be crossing each other, or that may be crowding up the centre of the young trees.

Older Trees may need more systematic treatment, and should cold weather stop the ground work, this is a matter that may well be taken in hand, as old trees that are thinned out intelligently, with due consideration to the style and habits of the individual varieties, may be brought into such a condition of fruitfulness that they will compare very favourably with the younger trees.

Spraying.—After completing the above operations, it is advisable to give all the trees a thorough spraying with caustic alkali. This removes all moss and lichen from the trees, as well as many of the insects that take refuge under the loose bark.

THOMAS STEVENSON.

Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Trenching and Digging.—The digging or trenching of all open quarters should now be completed as speedily as possible, so that the upturned soil may receive the pulverising effects of air and frost. Deep cultivation is of even greater value than liberal manuring. I would therefore recommend that all ground should either be trenched or bastard-trenched. By the former process the soil is usually dug two spits deep, the whole mass of soil being inverted. By the latter process the soil is usually dug the same depth, but the top and bottom spits are left in their relative positions. The latter method is better in the case of soil which has not been so deeply moved for several years.

Manuring.—Both kind and quantity are often a question of ways and means, but a certain amount of humus should always be afforded, in order to keep the roots cool and moist during hot, dry weather. A more liberal supply should, of course, be given to ground which is to be occupied by such gross feeders as Dahlias, Hollyhocks, Sweet Peas and Chrysanthemums than that on which the lighter annuals are to be grown.

Sweet Peas.—Where these are to be grown in rows and really good results are desired, trenches should be dug out and a good heavy dressing of farmyard manure placed at the bottom of the trench. A portion of the soil should be removed, replacing it with some old Melon or Chrysanthemum soil. A dressing of soot should be incorporated with the top spit.

Dog's-Tooth Violets, where growing in beds or masses, should receive a top-dressing of fresh loam.

The Rose Garden.

Labelling.—Where necessary, labels should now be renewed, and this raises the vexed question as to which is the best label. I was very partial to the Acme Label-Rest, which I regret is no longer on the market. I now intend go in for the Acme Rose Label, with raised letters. This can be suspended with lead wire, which is easy of manipulation when the branch from which the label is suspended has to be cut away at pruning-time.

The Pleasure Grounds.

Laburnums of considerable age have a knack of splitting at the fork, which generally occurs a few feet from the ground. If not too long neglected, the evil can be remedied to some extent by placing an iron band round the trunk immediately under the fork. The band should be about the length of the normal circumference of the trunk, and the ends, each of which should have an eye pierced in it, should be turned out at right angles. A screw-bolt should then be inserted into the two holes, and, the nut having been adjusted, the band can be tightened up by means of a screw-key. The wound, if still gaping, should be filled up with cement.

Turfing.—If any slight depressions occur on the lawns, the turf should be rolled back in convenient breadths, the ground levelled up firm, and the turf replaced and firmly beaten. If the soil used for this purpose is much richer than that of the lawn, the grass will grow stronger than the rest and look patchy.

Plants Under Glass.

Gloxinias.—A portion of the stock should now be started. Shake the tubers out and place them in a shallow box among some flaky leaf-mould and sand, only partially covering them. Place in a brisk temperature and spray daily with slightly tepid water. Last year's late seedlings which have been kept slowly moving during the winter should be potted on.

Achimenes.—An early batch of these may now be started. The stolons should be placed about an inch apart on pans partly filled with light, rich soil. They should then be slightly covered with a little of the soil which has been passed through a fine sieve. Place the pans in a brisk temperature and keep the soil moderately moist. Keep near the light when growth commences, as they are easily drawn.

Fruits Under Glass.

Vines.—Tying down the shoots in the early house will now be necessary, although present-day cultivators wisely defer the work till a later stage than our forefathers did, thereby lessening the risk of snapping. But, even so, care must be taken not to bend the shoot too far at the first tying. It will still further reduce the risk of snapping if the operation can be performed on the afternoon of a sunny day, when the shoots are more or less limp.

The Hardy Fruit Garden.

Planting of all kinds of hardy fruit trees is best done immediately after the fall of the leaf. Where it was impracticable to carry out the operation at that season, it may be proceeded with now, provided the weather is open. The aim of the cultivator should be to keep the roots near the surface, and the system of planting on the surface and covering the roots with good soil (maiden loam for preference) has much to recommend it.

Stocks and Grafts.—If not already done, all grafts should be cut and their bases inserted in the ground in a shaded position, in order to keep them plump. Stocks should be headed back, also any trees on which it is intended to work grafts.

The Kitchen Garden.

Horse-Radish, although possessing great vitality, can only be produced in good condition by liberal cultivation. Trench the ground from 2 feet to 3 feet deep, working in old decayed manure and decayed vegetable refuse. Plant the upper portion of the thongs with the tops pared off.

Cauliflower.—A sowing of some early variety, such as Snowball or Early Erfurt, should now be made in a cool greenhouse temperature.

Brussels Sprouts.—Many people prefer sowing now, as directed above for Cauliflower, instead of sowing in the open in autumn. There are few things that a gardener is so often disappointed with as the seed of Brussels Sprouts; hence the reason why so many save their own seed.

CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

PRACTICAL HINTS ON TABLE DECORATION.

I UNDERSTAND there is much table decoration still carried out with mud for a foundation, and yet more, perhaps, with flowers arranged in receptacles of many shapes and sizes. Whether the dainty fashion of arranging a varied vegetation on the cloth obtains to any great extent, I do not know, but it has advantages that cannot be claimed for other methods, the greatest of which, no doubt, is that of causing no obstruction between the diners on opposite sides of the table. At the same time it yields to none in effectiveness, though it must be allowed that in clumsy hands there is a certainty of its being a shocking failure.

It must be allowed, too, that all kinds of flowers cannot be used with success. Zonal Pelargoniums, for instance, brilliant as they are at this season, are far too modish unless trusses with only two or three open pips are used. Carnations are also a difficulty, though in their case they may be employed in loosely-arranged sheaves. This differentiation of ways of using particular flowers is a feature of flat decoration that must not be overlooked in estimating its advantages. Each flower has a way that it must be arranged in order to bring out its beauty to the fullest extent. So while we would make sheaves of Carnations and employ only a few, comparatively, Cypripediums, such as C. insigne, would be arranged so as to exhibit every part, the purple stems being in their way as important as the "slippers." Carnation foliage and buds are suitable for Carnations. Cypripedium leaves are less to be preferred than narrow-leaved Crotons for Cypripediums. Gloire de Lorraine Begonias are exquisite if arranged in small pieces with a little of their own foliage in very finely-leaved sprays of Smilax. Lenten Roses, again, go best in wreaths with a very few of the smallest of their own leaves and the greenery on their flower-heads with plenty of buds, and, perhaps, a few pieces of the curiously-twisted Muehlenbeckia complexa.

A very nice effect is produced with Plumbago rosea in sprays, and Apera arundinacea. Humea elegans is also suitable but not so dainty. A limited number of kinds of Chrysanthemums afford a desirable change, and of these the most effective is undoubtedly Mary Richardson. Emily Wells and Jessie Angus are also good, and I grow two Pompon Anemones without name, the one pink, the other brown, both of which are indispensable. Usually these are all best arranged in neat little bunches with selected foliage. Smilax, Crotons and material of that kind should not be used with them.

Quite a distinct effect is produced with Jasminum nudiflorum, with plenty of its thin shoots mixed with the flowering and budded ones. Sometimes a very marked distinction may be effected by introducing a very few fine trails of Vinca minor. Cymbidiums are particularly desirable—Lowii, tracyanum and chestnut brown ones—and all are best used with the flowers detached from the stems. For these perhaps there is nothing more suitable for a setting than Crotons and Asparagus Sprengeri. There are, of course, many more combinations equally effective that can be produced from the employment of Star-flowered Primulas, P. malacoides and Cyclamen of the right colours, deep crimsons and salmon being the best. As a rule, one need not be afraid to use strong colours. For a while last autumn there was quite a run on a deep crimson Lobelia of the cardinalis type. It is much to be preferred that nothing should be on the cloth with the exception of a little plate, and underdo the amount of material rather than have too much.

Most flowers will last quite fresh over the dinner-hour if previously placed for several hours in water—in some cases the stems merely; in others, *e.g.*, Hellebores and Begonias, the flowers also are immersed. Some flowers are of no further use afterwards, but the majority are as valuable as before for furnishing vases. Cypripediums which did duty three weeks ago are still quite fresh, and, indeed, the majority of the flowers are none the worse for the ordeal. Plumbago rosea is one of the worst to stand. Quite fresh, well-budded sprays only should be used, and not be arranged till the last possible moment. R. P. BROTHERSTON.

SOME LITTLE-KNOWN HARDY FLOWERS.

CALANDRINIAS AND LEWISIAS.

[*In Answer to a Correspondent.*]

CALANDRINIAS and Lewisias, closely-allied plants, together form a class of alpine flowers which deserve and require the full care of all admirers of rock gardens and the gems which adorn them. The difficulties they present in the way of culture only whet the desire of the cultivator to succeed with them, and he may well consider himself happy who can manage to grow these beautiful flowers for a term of years in the open. There are about one hundred and forty species recognised by botanists, the vast majority being classed with the Calandrinias. The botanical distinctions between the two genera are, however, so small that the distinguishing point—that of the opening of the capsule—is often unknown to the botanist, with the result that several of the true Lewisias are frequently included among the Calandrinias by high authorities, so that it is difficult to separate them unless they have seeded in one's own garden or have been fully distinguished by competent botanists. The sole difference between the two lies in the dehiscing or opening of the seed-capsule. That of the Lewisias opens from the base to the apex, the capsule of the Calandrinias opening in the opposite way. With such a small distinction it is unfortunate for garden purposes that they have been separated.

A considerable proportion of the Calandrinias can only be classed as annuals or biennials with us, and seeds of only a few of these are ever offered by British seedsmen. Like the perennials, they have rather succulent foliage and beautiful flowers, and, like them, they should have a dry, warm and sunny position to do them justice. They are best sown where they are to bloom, and may be treated like other half-hardy annuals. If treated as biennials, they should be kept under glass all the winter and planted out in May after being hardened off.

The perennials can also be sown in the open where they are to bloom; but it is desirable to sow the seeds under glass in spring, planting the seedlings out in the course of the summer, so that they may become established before winter if they are to be allowed to take their chances of standing the seasons in the open. If not, it is better to grow them on in pots for the first year, keeping them near the light in a low house or frame in summer and in a slightly-heated house in winter. They are difficult to manage in a cold frame in winter, and a minimum of heat, just sufficient to exclude frost, is better than a higher degree.

The soil for the Calandrinias and Lewisias should always be light, sandy and well drained, and the writer has found the perennial species to thrive better if jammed between two stones, on which the foliage rests, unless planted in a moraine, probably the best treatment of all. They do not seem to require lime, nor are they averse to its presence in the soil.

Remarkably few of the annuals are available in the form of seeds, and the few offered in catalogues are but little known in gardens. Even some of the described species in works of reference are not obtainable at all in the trade. Of those which are offered by some specialists is included C. chromantha, a most ornamental plant, growing about three feet high, and bearing elegant sprays of little Gypsophila-like pink flowers, which are followed by small orange berries. C. discolor, another annual or biennial species, is only about a foot high, and affords a succession of large and handsome rose-coloured flowers. These are, I believe, all the annuals offered at the present time in Great Britain. C. procumbens and C. umbellata have also been cultivated.

One of the best known of the allied plants is C. umbellata, a very beautiful subject for the rock-garden. It is of rather shrubby habit, grows about six inches high, and has large crimson flowers with a tinge of magenta, which is a drawback to its popularity. There is, however, a variety called carnea, with blooms of a pleasing flesh pink. Unfortunately, C. umbellata cannot be relied upon to stand our winters, although it may survive for a short series of years. It is safer to treat it as a biennial, though seeds sown early will give plants which will flower in the autumn.

A charming Calandrinia called C. leeana has been in cultivation, but appears difficult to secure at the present time. It makes a close tuft of succulent foliage and bears a number of small pink flowers. It is a very charming little subject, and one which the writer retained for several years on a flat terrace of a sunny rockery, facing full south and in sandy soil, surfaced with fine gravel to a depth of about an inch. Although its flowers lack the size of some of its allies, they are so freely borne that they more than compensate for their smaller size. This species has stood for several years in stiff soil also, but it is not a long-liver, generally rotting off at the neck and requiring to be replaced by seedlings or by cuttings, which are difficult to strike except in gentle heat.

C. oppositifolia, which was figured in THE GARDEN of November 28, 1891, is a very beautiful plant, with larger leaves and flowers than those of C. umbellata. The blooms are white, and those who have access to this journal of the date mentioned will find a faithful representation of this now scarce Calandrinia. It is a pleasing little plant, which, like most of its allies, will frequently survive for a season or two, but is not a long-liver in our climate. A dry, sunny spot should be chosen for it.

In the notes by the late Mr. Daniel Dewar which accompanied the illustration in THE GARDEN, mention is made of C. Gilliesii and C. setosa as so closely related to C. umbellata as to be hardly distinguishable from it. These do not at present appear to be in cultivation, and C. Menziesii or speciosa, rose purple, is apparently not now offered.

So far as I am aware, no other perennial Calandrinias, as distinct from the Lewisias, are at present available, and we may now turn our attention to the latter, which are of great beauty indeed, and whose popularity in gardens is only limited by the drawback which attaches to their allies—that of short life. They are charming plants, requiring the same treatment as the Calandrinias, and giving, where they are happy, handsome flowers and pleasing plants in every way.

It was to THE GARDEN that those interested in the genus were first indebted for an illustration of the charming Lewisia, then called Calandrinia Tweedyi, as it was figured in these pages in Vol. LIII., 1898, page 420, when the plant attracted much attention. It is a lovely, dwarf, tufted plant, with flowers which are red in the bud, and of a pleasing flesh colour, edged with bronze, when fully open. It has been several times figured since then, and has been much admired wherever seen. It is an Oregon plant, and is said to be very plentiful in some parts. Like the others, it was considered hardy, and stood the winter for some years, even in Cheshire, as well as further South. It is not, however, so reliable as was at one time believed, and wet in winter is one of its greatest enemies. L. Tweedyi, or Tweediei as it is often spelt, received an award of merit at the Temple Show of 1901, when it was exhibited by Messrs. Barr and Sons. An illustration will be found in the *Botanical Magazine*, t. 7633.

Another acquisition among the Lewisias was presented at the Temple Show of 1911 by Mr. G. Reuthe, who received an award of merit for the lovely Lewisia or Calandrinia Cotyledon, which is fittingly said by the Journal of the Royal Horticultural Society, Vol. XXXVII., Part 2, where it is also figured, to be "the most beautiful of the genus." It was, I am informed, raised from seeds sent from Klondyke, and is probably the most enduring of the Lewisias in our climate, although winter wet is its bane also. It has exquisite white flowers, fully an inch across, with a distinct crimson band along the centre of each petal. The pretty leaves, in rosettes, are fleshy and green, tinged with pink at the margins. But for the winter wet this would be an assured favourite.

Following on this, last year Mr. Maurice Prichard received an award of merit from the floral committee of the Royal Horticultural Society for L. Howellii, another charming plant, with rosettes of succulent leaves, lanceolate in shape and tinged with pink. The handsome flowers are of a kind of creamy apricot, marked with lines of rose, and are borne in good umbels. It is another great acquisition to our gardens, but is no more to be relied upon than the others.

The best known of the Lewisias is the old L. rediviva, which is said to have again sprung into growth after being in a herbarium for a long time, and which has been in cultivation for a number of years. It is fairly well known, its succulent leaves in rosettes and its large flowers, which do not expand until the leaves have withered, making it a handsome plant, though it is marred by the absence of leaves when in bloom. It should have a warm, dry, sunny place, but some cultivators give a good supply of moisture at the roots, while keeping the neck of the plants dry. This also is liable to injury from wet, and although living for years, sometimes dies off unexpectedly from rot. Another Lewisia or Calandrinia which is to be met with in one or two lists is nevadensis, but I have had no experience of this species.

The favour with which these plants have been received will doubtless lead to the introduction of other beautiful Calandrinias and Lewisias, and were it not for their want of reliability in our climate, these lovely members of the great Purslane family would be assured of permanent favour. S. ARNOTT.

THE FRUIT GARDEN.

THE THINNING OF FRUIT TREES.

"HE believes in spraying a lot, but I believe in keeping my trees thin." This was a remark I overheard made by one individual to another in the Royal Horticultural Hall on the occasion of the last great show of British-grown fruit. There is not the least doubt that there is a tremendous lot of truth in the idea underlying the above expression of the different growers' creeds. It will be a very long while yet before we are able to dispense with spraying as an aid to growing a good crop of large, clean fruit—particularly of Apples—but it is quite certain that such a task is rendered far more easy if the trees are kept sufficiently open so that all the sun and air possible is allowed to circulate through the branches, rather than if choked with growth so thick that light and air can hardly penetrate at all. A casual examination of overcrowded fruit trees during the fruiting season will reveal the fact that all the fruit worth calling by that name is on the outside of the tree, and nothing at all is borne by the thick growth inside. The work may be done at any time during the winter months, though I prefer to do it early in the autumn, just before the leaves fall, as one can then tell better exactly how much to cut out.

The first thing to do is to remove any of the lower boughs which are too low, or which have become stunted and unthrifty. Next, all the small boughs and twigs which are encumbering the main branches of the tree must be cut off, taking care to cut right close home; otherwise, if even the smallest snag be left, shoots will spring from it and become a nuisance later. After this has been done it will be found that a considerable improvement has been effected in the appearance of the tree, and it will now be possible to turn the attention to the better outside growths, which are perhaps growing across the tree or are ill-placed according to the general shape and symmetry of the tree. In this work some caution must be observed, removing smaller rather than larger pieces at a time and the worst first. Wherever the saw has been employed to remove a bough, the rough edges of the wound must be pared round with a knife to enable the bark to callus over and protect it as soon as possible. With the same end in view, all wounds above an inch in diameter should be painted with a styptic of some sort, to prevent the entrance of the spores of any of the wound fungi till such time as the new bark has completely healed the wounds over. A good thing to use is a red or white lead paint made with pure linseed oil, but without turpentine. This will be found to set quite hard on the cut surface, and to remain in good condition and without flaking off for a long time. Stockholm tar can also be used, but not gas-tar, unless the pruner is dealing with very old trees indeed. After a tree has been well thinned, it is not necessary to repeat the process the next winter. About every three years will be often enough to prune in the case of old-established orchard standards. F. W. HAMMOND.

Pilgrim's Hatch, Brentwood.

MISCELLANEOUS.

BUYING MANURES ON ANALYSIS.

THE Fertilizers and Feeding Stuffs Act was amended in an important respect when the latest Act (1906) was passed. Small purchasers of manures were protected in the same way as larger buyers, who stand, perhaps, in less need of it. Before this date the provisions of the Act did not apply to quantities of less than 1cwt., but this has, fortunately, been amended, and buyers of any quantity have a right to know the percentages of nitrogen and the other two ingredients covered by the Act—phosphates and potash. Another point worth noting under the same Act is that where such percentages are mentioned in an artificially-made manure, the purchaser now knows the actual, and not merely, as heretofore, the minimum, amounts of the different constituents. These provisions are valuable, for cheap grade manures are often traps for the unwary, and often very uneconomical. Attention is drawn to organic matter, alkalis or other substance not covered by the plain terms of the Act, and which, therefore, should not be valued at all. Low grade fish-manure, for example, should be bought with great care, and statements that the phosphates are "partially soluble" should not be accepted. In a recent case submitted to the writer, this description accompanied a singularly poor manure, in which attention was called to the "organic matter," and a high price was charged, quite out of proportion to the percentages of the ingredients which possessed a marketable value.

HOW CONTACT INSECTICIDES KILL.

INSECTICIDES kill in various ways, and it is supposed that those to which the above term has been given do so by causing suffocation. Little is known, however, about the way in which such insecticides do their work, and experiments have shown how very difficult it is to kill many insects in a reasonable time merely by excluding air. The agricultural authorities at Michigan College, U.S.A., have been putting this to the test, and have come to the conclusion that death must be due to another cause, because insecticides like kerosene and gasolene kill quickly, and this points to something more than a stopping up of the breathing apparatus. Several insecticides, too, were found to be as effective in a state of vapour as in the liquid form, which confirms these conclusions. The results of these experiments, however, still seem to show a connection between the breathing apparatus and death, because it appears that the absorption of oxygen is in some way interfered with by such agents as creolin and pyrethrum. This seems to account for their speedy action, for in the form of vapour these insecticides were found to penetrate the chitine far more quickly than liquid or powder could do. For rapid action, then, vapour seems better than spraying. G. T.

CATALOGUES RECEIVED.

Messrs. Fisher, Son and Sibray, Limited, Handsworth, Sheffield: Seeds.
Messrs. Edmondson Brothers, Dublin: Seeds.
Messrs. Kent and Brydon, Darlington: Seeds.
Messrs. W. Atlee Burpee and Co., Philadelphia: Seeds.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Double Daisies in Pots.—The owner of an unheated greenhouse might derive considerable pleasure from now onwards from a few potfuls of double Daisies. Although these are not everyone's flower, they are highly appreciated by many. Plants lifted from the outdoor garden now with good balls of soil and potted up into 5-inch pots will scarcely notice the disturbance, and if placed in a cool greenhouse will quickly give a beautiful display of flowers. More use should be made of hardy flowers in the cold greenhouse, instead of attempting to grow plants which need a comparatively high temperature to bring them to perfection.

The Tamarix.—Owing to the mildness of the season the young buds on these plants are becoming very prominent. The Tamarix is a splendid plant for growing on exposed sandy banks in or near gardens by the sea. We know of many plots of large size now well covered with the plants where it would be difficult to establish other kinds. We know, also, of many plants whose roots are covered with sea water at high tide, and the growth of these, too, is very satisfactory. Cuttings soon root if inserted in a sandy compost under a hand-light or in an ordinary frame early in spring.

Planting Fruit Trees in Spring.—Although November is the ideal month for planting fruit trees, and the work is always best done then when possible, it often happens that for some reason or other the trees cannot be put in at that time. We are often asked whether it is impossible to plant fruit trees or bushes at any other time, and unhesitatingly answer "No." We have on many occasions planted fruit trees in February and the early days of March, and such trees have invariably done well. The soil must not, of course, be frozen hard nor sodden with water. Plant in November if you can; if not, do the work during open weather in February.

Pensions for Aged and Infirm Gardeners.—On another page we give particulars of the annual election of aged and infirm gardeners, or the widows of gardeners, to the funds of the Gardeners' Royal Benevolent Institution. During the seventy-four years the Institution has been in existence it has brightened the lives of a vast number of those who, through no fault of their own, have fallen on evil times. We would remind our readers that these are men, or the widows of men, who have in their earlier and happier days done so much to give us the flowers and fruits that we now enjoy. What a pension of £20 a year means to these unfortunate and destitute people only the committee of the Institution perhaps know. We urge those of our readers who have enough and to spare to send a donation towards the funds to the secretary, Mr. G. J. Ingram, 72, Victoria Street, Westminster. By so doing they will have the satisfaction of knowing that they are bringing some ray of hope to those who in the past have given of their best to brighten the lives of others.

Mimosa in the London Markets.—During the last two or three years the species of Acacia sent from the South of France to the London markets at this season has been changed. A few years ago the Silver Wattle, Acacia dealbata, was practically the only one sold as Mimosa, but it has now been almost superseded by A. baileyana. The latter is the more graceful of the two in a cut state, the smaller and softer glaucous, deeply-serrated leaves and the long racemes of globular, bright yellow flower-heads making an ideal spray for vases. It would be interesting to know why the growers have almost dropped the cultivation of A. dealbata for this new-comer.

A Beautiful Early-Flowering Crocus.—During the last few weeks the charming little Crocus Sieberi has been giving us its rich lavender blue flowers in the outdoor garden, but owing to the sunless, damp weather that has prevailed, they have seldom got beyond the balloon or unopened stage. This is unfortunate, because much of the beauty of this Crocus lies in its rich orange stigmata, which can only be seen when the flowers are fully opened. A few days ago we potted up a few plants in some damp fibre and moss and took them into a warm room, where the flowers quickly expanded and revealed to the full their beautiful interiors. We pass on the hint to others who may care to try it.

An Effective Grouping.—A pretty effect is now to be seen in the Temperate House at Kew by the bright red flowers of Cestrum elegans and the yellow blossoms of Acacia verticillata, the two plants growing side by side and being covered with flowers. Although it is impossible, except in those establishments where there are large winter gardens, to allow the plants to develop so freely as in the case referred to, a similar effect on a reduced scale can be produced by most people who possess a moderate-sized greenhouse, for both plants are easily grown, while other species of Acacia, such as A. armata or A. Drummondii, both of which thrive excellently in pots, might be substituted.

An Early-Flowering Almond.—It is not unusual to see flowers on the Chinese Prunus davidiana towards the middle or end of January, but it can have rarely happened that a variety of P. Amygdalus has been in full flower during the third week of January, yet such was the case this year. The variety in question is persicoides, a form which usually blossoms early in or towards the middle of March, a fortnight or so in advance of the type. Its precocity this winter, however, is remarkable, and is doubtless due to the exceedingly mild winter which has been experienced in the South of England. The tree specially noted is growing in an enclosure surrounding the flagstaff at Kew, while another tree, similarly flowered, was seen about the same time in the churchyard at Kew.

CORRESPONDENCE.

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

Plants and the Mild Weather.—I imagine the abnormal condition of vegetation is due to the hard frost in November, which gave the necessary check to vegetation, and to the nice weather that followed. There is here a Sycamore in full leaf, and a hedge of Mahonia Aquifolia has been in flower since the New Year, while Montbretias, which were very late in flowering last year, already have shoots several inches in length. Flowering Currants are also far in advance of a normal season. That the weather of last April and May could affect these, as Mr. Bowles seems to think, is scarcely to be credited.—R. P. BROTHERSTON, *Tyninghame, Prestonkirk, N.B.*

Rose Sarah Bernhardt.—May I add a contribution to the notes which have appeared in your columns relative to this Rose? I was a little surprised that Mr. Molyneux should have included it in his list of new Roses, seeing it was raised by M. Dubreuil in 1907 and sent out in 1908. I was first attracted to it by seeing fine bushes of the variety in Messrs. Paul and Son's nursery in 1909. The following autumn we had a plant or two, and in 1910, perceiving it to be a valuable addition to the decorative section and superior to Bardon Job, we increased our stock, and have grown and exhibited it ever since. Mr. Molyneux classes it as a pillar Rose. It may be so in his climate, but not in ours. It flowers from the top of the shoot, not the laterals, and should be moderately pruned, leaving the shoots about three feet high. With us it is a good bush Rose, flowering best in a dry season, early and late. It may be best described as a semi-single Horace Vernet, producing some six to a dozen blooms on a stem.—JOSEPH H. PEMBERTON.

Treatment of Iris unguicularis.—A note on Iris unguicularis (stylosa) in THE GARDEN, page 2, issue January 4, suggested that transplantation in spring might induce clumps of this Iris which had remained flowerless to produce a crop of blooms. In the first place, it is at least doubtful whether it is wise to transplant this Iris in spring. Growth obviously begins when the soil becomes thoroughly wet in autumn, and continues, except for interruptions by hard frost, until midsummer. As a general rule, it may be said that Irises should be transplanted while growth is active and, if possible, when growth first becomes active. In the case of I. unguicularis, this usually begins early in September, and I am inclined to think that this is the best period at which to transplant this Iris. Provided the plants are placed close to the foot of a warm, sunny wall in somewhat poor, light, well-drained soil, the number of flowers produced seems to depend on the weather, although it has been a surprise to find that plants are blooming fairly well this winter in spite of the lack of sun in the latter part of the summer. Last winter, when the flower-buds had formed in vast numbers during the long summer drought, the majority of them were killed by hard frosts before they had had time to develop, and when their presence could only be detected by dissecting the base of the growths. If the plants can be given a sunny position in suitable soil close to the foot of a greenhouse wall, where they reap the benefit of warm pipes on the other side of the wall, they seldom or never fail to produce their crop of flowers.—W. R. DYKES, *Charterhouse, Godalming.*

MR. C. F. FAULKNER DISTRIBUTING SPRAYS AND BUTTONHOLES OF SWEET PEAS IN FRONT OF THE TOWN HALL, MANCHESTER.

Plants Flowering on January 20.—The list below represents plants in flower on January 20 in the gardens at Cann House, most of which are not due to bloom for many weeks. I have purposely omitted many commoner shrubs, and have only included the rarer species. I should like to add that Primula Winteri, a recent introduction from the Himalayas, is making a brave show in the open. Aotus gracillima, Azara microphylla, Akebia lobata, Berberis Bealii, Bauera rubioides, Brachysema Drummondii, Boronia megastigma, Camellia japonica, Clematis balearica, Ceanothus rigidus, Cytisus præcox, Ceanothus Veitchii, Cornus Mas variegata, Correa magnifica, C. alba, C. ventricosa, C. curiosa, C. cardinalis, Daphne Genkwa, D. blagayana, Edgworthia chrysantha, Erica australis and six other species, Grevillea sulphurea, Gnidia carinata, Hymenanthera crassifolia, Jasminum primulinum, Lonicera syringantha, Lithospermum prostratum Heavenly Blue, Loropetalum chinensis, Libonia floribunda, Medicago arborea, Prunus Pissardii, P. davidiana, Pyrus nivalis, P. Maulei Sargentii, Polygala Chamæbuxus and the variety alba, P. dalmaseanum, Pieris floribunda, Ribes speciosus, Rubus speciosus, Sycopsis sinensis, Veronica macrocarpa and Viburnum rhytidophyllum.—H. W. GRIGG, *Cann House, Crown Hill, South Devon.*

Old Cyclamen Plants.—It is the general practice in cultivating Cyclamen persicum to treat it as an annual, and really well it succeeds managed in that way; but one occasionally comes across plants several years old which are also a success. In the gardens at Corhampton House, not far from where I write, Mr. Cawte, the gardener, has a fine batch of plants now coming into flower that are several years old, and remarkably well they promise, being furnished with large, healthy leaves, and throwing up a quantity of really fine flowers. The treatment the plants receive after flowering is, they are gradually dried off, stood at the foot of a north wall, and, when they show signs of new growth in July or August, the old soil is shaken off the roots, and the corms are freshly potted in a fairly rich compost, stood in a cold frame for a time, carefully watered, daily syringed, and, as the autumn comes along, they are removed to a shelf close to the glass in a cool greenhouse.—E. MOLYNEUX, *Swanmore Park, Hants.*

—— After reading the note on "Old Cyclamen Plants" on page 29, issue January 18, I feel tempted to write you my experience with them. When taking charge of these gardens four years ago there was a batch of nearly two dozen plants, all from about ten to fifteen years old, I should think. The best had a dozen or so blooms. As soon as the plants had finished flowering they were put into a frame in full sun, watered until the foliage began to turn yellow, then dried off until some corms shrivelled. In August all the soil was shaken off, and they were potted up in a good mixture of loam, leaf-soil, sand and road scrapings, put back into the frame again, kept fairly close and shaded, and we syringed between the pots twice daily. In October we put them into a house with a temperature of 45° to 50° and carefully watered them. The next spring I selected fifteen of the finest plants. The best of these had 120 flowers, the smallest had eighty.—ALBERT JAMES, *The Gardens, Winsford Hall, Great Yarmouth.*

A Sweet Pea Enthusiast.—Among those who take a particularly keen interest in Sweet Peas is Mr. C. F. Faulkner of Clevelands, Park Avenue, Hale, Cheshire. For fourteen years Mr. Faulkner has grown Sweet Peas extensively, and each year has set himself the laudable task of distributing sprays and buttonholes of the flowers at garden fêtes, crippled children's picnics and similar functions. In the accompanying illustration he is seen distributing Sweet Peas in front of the Town Hall, Manchester, on the occasion of the picnic arranged for members of his firm last summer. Mr. Faulkner is a provincial corresponding member of the committee of the National Sweet Pea Society, a past president of the Altrincham and District Chrysanthemum Society and the Altrincham Gardeners' Mutual Improvement Society, as well as a patron of several other horticultural societies in the district. He is also a vice-president of the National Auricula and Primula Society (Northern Section).—W. J. W.

WORKERS AMONG THE FLOWERS.

MAJOR C. C. HURST.

HORTICULTURE of to-day owes not a little to the investigations of scientific men, who may legitimately be regarded as workers among the flowers. It is doubtful whether the average horticulturist realises the immense amount of sound investigation into plant-life that Major C. C. Hurst, whose portrait it is a pleasure to publish in this issue, has done. As Director of the Burbage Experimental Station at Hinckley, Leicestershire, Major Hurst had charge last year, and has charge this year, of the National Sweet Pea Society's trials, and we think it appropriate to give some particulars concerning him in this our Special Sweet Pea Number.

Apart from his work among Sweet Peas, evidence of which is clearly set forth in the admirable paper read by him at the National Sweet Pea Society's Conference last year, and now published in the Society's "Annual," Major Hurst has done a vast amount of work among flowers. Of these, mention may be made of Orchids, Roses, Antirrhinums, Rhododendrons, Berberises and Daffodils, while the more utilitarian fruits and vegetables have not escaped his active attention. Indeed, it is to memoirs and articles of his which have appeared from time to time in the publications issued by the Royal Horticultural Society, Linnean Society, Royal Society and the British Association, that we are indebted for much new information about plant and animal life in general. We mention animal-life because this has been almost, if not quite, as deeply investigated by him. With Mr. R. A. Rolfe of Kew, Major Hurst is responsible for the Orchid Stud Book, the only one of its kind ever compiled.

In other directions our worker among the flowers has distinguished himself. He is a Member of the Advisory Council on Horse-breeding to the Board of Agriculture and Scientific Adviser to its Standing Committee, a Fellow of the Linnean Society, Member of the Scientific Committee of the Royal Horticultural Society, and Correspondent of the Carnegie Institute of Experimental Evolution, Washington, U.S.A. Before devoting himself entirely to scientific research, Major Hurst served in the 4th and 5th Battalions of the Leicestershire Regiment, and was for ten years on the Staff as an Instructor of Signalling, and Brigade and Divisional Signalling Officer. He retired with the rank of Major, and is now in the Reserve of Officers. That Peace will enable him to carry on his valuable work of investigation into plant-life is the earnest desire of all who are privileged to know him.

FORTHCOMING EVENTS.

February 3.—National Chrysanthemum Society's Annual Meeting.

February 4.—Royal Horticultural Society's Exhibition and Meeting. Lecture at 3 p.m. by Mr. C. F. Ball on "Plant-hunting in Bulgaria." Horticultural Club's Annual Meeting and Dinner. Scottish Horticultural Association's Meeting.

February 7.—Royal Gardeners' Orphan Fund Annual Meeting and Election of Orphans at Simpson's Restaurant, Strand, at 3 p.m.

February 10.—United Horticultural Benefit and Provident Society's Meeting.

GARDENING ACROSTICS.

BELOW will be found acrostic No. 8, which finishes the series. The solution to No. 7, which appeared last week, will be given in our next issue, and the solution to No. 8, together with the names of those who have correctly solved Nos. 7 and 8, and the names of the prize-winners, will appear in our issue dated February 15.

DOUBLE ACROSTIC No. 8.

My firsts.—The surnames of two men who have added much to our knowledge of plant biology.

My lasts.—Their "special line."

NOTE.—Arrange as usual; then reverse the letters of the evens.

1. The initials of the member of the Elephant's Trunk family that has the most characteristic seed-vessels.
2. The maker of Versailles.
3. I end in smoke.

MAJOR C. C. HURST, F.L.S.

4. An English name for an old herb—but does it make it or stop it?
5. A celebrated botanist-artist not unknown to C. J. Trew.
6. I am a herb with royalty in my name and sacredness in my use.
7. Sometimes pictured in old gardening books, I was most useful in filling up gaps in beds.
8. "O Flowers,
   That never will in other Climate grow!
   . . . . . .
   Who now shall rear you to the Sun, or rank
   Your Tribes?"
   Whose lament is this?
9. One of the most famous of all Continental nurserymen who lived in the last century.
10. "Le Jardin de Hollande"—what am I in English?
11. A many-coloured Japanese hybrid—magnificent at Wisley.
12. Henry VIII. began to make the gardens of . . .
    "Which no equal has in art or fame."
13. My art once filled English gardens.

Solutions must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than February 8. Mark the envelope "Acrostic" on the upper left-hand corner.

SOLUTION AND NOTES OF ACROSTIC No. 6.

"ANTHER—STAMEN" (inverted).

* 1.	A	'SSIMILATIO	N
† 2.	N	ERIN	E
‡ 3.	T	WICKENHA	M
§ 4.	H	A-H	A
‖ 5.	E	AT I	T
¶ 6.	R	ANUNCULU	S

* By means of the chlorophyll in the leaves carbonic acid gas is made into a plant food. † The blooms of Nerines sparkle in sunlight as if covered with diamond dust. ‡ See Johnson's "History of Gardening," page 261. § Probably a sunk fence was first made by Bridgeman, the landscape gardener. One derivation of the name is from the surprises such a fence created. Amhurst's "History of Gardening in England," page 263. ‖ When fully ripe a Kirke Plum has a delicious bloom upon it. Weathers' "Guide to Garden Plants," page 1073. ¶ The Ranunculus was in high favour about 1800. A list of that period contained about eight hundred varieties. See Phillips' "Flora Historica," under "Ranunculus."

SOLVERS OF ACROSTIC No. 5.

ALTHOUGH a number of readers succeeded in getting most of the points right in No. 5, no one sent in a correct solution as published last week. We would remind readers that prizes will be awarded to those who correctly solve the greatest number.

*** *The names of those who have correctly solved No. 6 will be given next week.*

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is now being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First Prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN.

For rules governing the competition will readers please see our issue dated February 4.

All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.

SOME FUTURES FOR THE SWEET PEA.

IT would be an easier task to write about the importunities of editors than about Sweet Peas. I would certainly have something to say then, both from the victim's and also from the paper's point of view. A successful importunate editor must be worth his weight in golp provided only he importunes the right people. I feel badly equipped to write just now on Sweet Peas. For one thing, I did not visit any Sweet Pea shows last year except our own local one at Whitchurch (Salop) and a particularly pleasing "at home exhibition" of Dr. Phillips at Malpas. Again, the catalogues and books devoted either wholly or in part to this one flower are legion, not to mention the many notes and articles in the papers, so that it is almost beyond the bounds of human possibility to say anything new about them. And yet I have promised to write, and I do not want to take away from the weight of the Editor, so I feel a little nervous in putting pen to paper to record these few random thoughts about the future.

Bush Sweet Peas.—I used to grow these once upon a time, and I found them most useful for supplying the greenery in my Sweet Pea vases. It has since occurred to me that this 2-feet to 3-feet type might be developed, and that if good-shaped and many flowers could be put upon them, they would be very valuable for border decoration.

Scent.—I should like to see a class for fragrant varieties introduced at some shows. I think I am quite right in saying that in the evolution of the modern Sweet Pea fragrance has suffered somewhat severely. Mother o' Pearl is my ideal in this respect. You can always smell it when you pass it by in the garden. Lead me blindfolded down a row of yard patches of different kinds, and I would always know when I came to it. Now, why not a class for fragrance? It wants encouragement.

Trained Sweet Peas.—Schedule-makers are doubtless on the look-out for new ideas. I am sure the late chairman of our committee must be sighing for new worlds to conquer. I expect he saw some wonderful examples of trained Chrysanthemums in Paris, as I did at Liverpool last autumn. Well, why not try if something in this way could not be done with the Sweet Pea? The results might be stiff, but they would be, like the Chrysanthemum plants, a triumph over difficulties. Here is my suggestion: Class so-and-so, for the best balloon-trained plant (or plants) of Sweet Peas growing in an 8-inch or 10-inch pot.

Sweet Pea "At Homes."—It struck me that this is a capital idea, and one that might be carried out by a good many people. It would provide an object for high-class cultivation, and also give much pleasure to one's friends and acquaintances. A mass of one flower is always effective, and it is surprising what an interest the comparing of one sort with another is when a good many are brought to one's notice. Two friends might join forces in growing and share the expenses of the day very well. The requisites are a tent and good staging; or a large room would do instead of the former. A band, or music of some description, would, of course, be an additional attraction. Later in the day, when the "at home" is over, the smaller people of the neighbourhood might be invited to look round, and I am sure they would appreciate the sight.

Local Shows.—We have had one at Whitchurch for two years, and we are going to have a third this year. My experience tells me two things: First, that there must be a hard-and-fast radius line to ensure the competition being truly local; and, secondly, that there should be, if at all possible, *one* open class with sufficiently valuable prizes to attract a few of the tip-top growers like Mr. T. Jones, Mr. Usher, Mr. Stevenson and Mr. Prophet. There is nothing more stimulating to the true lover of a flower than to see from time to time attainments to which he, too, one day hopes to aspire.

JOSEPH JACOB.

SWEET PEA ERIC HARVEY, A BEAUTIFUL VARIETY FOR GARDEN AND HOUSE DECORATION.

SWEET PEA ERIC HARVEY.

IT is for table decoration and garden effect that this comparatively new variety is especially commended. The flowers are of average size, nicely waved and gracefully arranged on the flower-stems. In colour, the back of the standard is of a pleasing soft rose, while the front view presents a Picotee marking on a white ground. This variety, raised a few years ago by Mr. W. J. Unwin, Histon, Cambs, is now quite fixed, and is certainly one of the best garden Sweet Peas of recent introduction.

SWEET PEAS AS BEDDING PLANTS.

DURING recent years the cultivation of Sweet Peas for garden decoration has been carried out in many ways, and in some a great deal of ingenuity has been displayed. With such a free-flowering and easily-grown annual it is not difficult to understand the desire of the amateur to put it to as many uses as possible; but we do not ever remember seeing it used as a bedding plant. We refer, of course, to the Sweet Pea proper, and not the Cupid forms of it. When visiting a market-garden establishment in a country district last summer, we were surprised to come across a large bed of Sweet Peas that were grown primarily for providing cut flowers, but which had, by some means or other escaped being staked. The result was that the plants had become procumbent and the growths had intertwined, so that the whole made one glorious bed of fragrant, delicately-poised blossoms. No doubt Sweet Pea enthusiasts would term this bad cultivation, but with this we should not agree. It is unconventional, but the effect was most pleasing. The flowers were of good size and quality, and the illustration on page 57 will give a slight idea of the effect. The owner informed us that immense quantities of good blooms had been cut from the bed, and that the plants had been in good and floriferous condition for many weeks.

Those who have large lawn beds to fill, and who are looking out for a cheap and unique method of doing so, might well sow or plant them with Sweet Peas on the lines suggested in the illustration. If desired, a good pillar could be formed as a centre-piece by providing supports in the form of sticks or Simplicitas Netting for the plants there to scramble over. The only drawback to growing Sweet Peas in beds in this way is the difficulty

in getting at all the newly-formed seed-pods to remove them, an essential point where continuity of flowering is desired; but this can be overcome with a little care. The bed illustrated was about nine feet wide, and, by carefully placing one foot between the haulm, the centre plants could be reached in comfort.

SWEET PEAS REVERTING TO THE WILD TYPE.

THOSE who had the privilege of hearing Major Hurst's interesting paper at the annual conference of the National Sweet Pea Society on rogues in Sweet Peas must have been impressed by the fact that the greater knowledge of Mendelism as applied to the hybridisation of Sweet Peas has been of the greatest assistance, not only to the actual raiser, but has provided a satisfactory explanation of many curious and seemingly inexplicable facts that have occurred in many gardens.

Some readers may recall a discussion a few years ago concerning a statement that seeds of Sweet Peas purchased from one of our best known English seedsmen had reverted to the wild purple bicolor in Sicily and Madeira.

One of these cases was particularly interesting to the writer, as it happened in his mother's garden at Taormina in Sicily. Although this island is the home of the wild Sweet Pea, our modern, highly-cultivated production was there practically unknown at that time. With up-to-date methods of cultivation and the natural climatic advantages these plants from imported seed grew to great perfection, producing particularly fine blooms, and were the object of much admiration and curiosity in the surrounding neighbourhood. Therefore, great must have been the disappointment of the owner, having carefully saved the seeds of each variety separately, to find, the following year, haulm and growth giving promise of equally good results, that the early blooms (the wild Pea of Sicily blooms earlier than our Pea) were merely a slightly-improved form of the purple bicolor. Irritated at the disappointment, she did not wait for any more to blossom, but ordered them all to be pulled up. Thus did she destroy what might have been not only the elucidation of the mystery, but further possible proofs of the working of the theory of Mendelism, and the production of new varieties had she saved the seeds of these plants.

Many of our experts were consulted, and the subject was referred to at the Sweet Pea Conference in 1910, but it was considered hardly credible, and the general feeling was either that the statement was inaccurate or the gardener was dishonest. As may be well understood, these explanations (!) were received with natural indignation, and the subject has since been carefully avoided in the family.

Major Hurst's reply to Mr. Sydenham's question, why Sweet Peas, when saved in Sicily or Madeira, reverted to the wild purple, was awaited with great interest by those who had heard of similar incidents in those countries. His lucid explanation was a real clearing up of the mystery. The wild Sweet Pea, being a native of Sicily, was evidently visited by some insect (possibly the leaf-cutting bee, very common in those parts), which carried the pollen from the wild to the cultivated varieties, and, the old purple bicolor being dominant over all other colours, it was only natural that all flowers thus cross-fertilised should produce the purple bicolor.

Langford, Bristol. VERNON T. HILL.

RECENT IMPROVEMENTS IN SWEET PEAS.

AT this season the Sweet Pea lover usually reviews the past and wonders what the future has in store. We are told by some that there are very few distinct novelties, and that there is very little advance from year to year. What greater advance could we have than in scarlets? Two years ago we had no scarlets with true Spencer form and growth; now there are several offered for sale. I think this class will gain in favour, as most of them improve after cutting, while the crimson shades soon lose colour. It is almost impossible to send or carry the latter in boxes for any length of time and find them of good colour.

The first of the waved type, Countess Spencer, is losing ground. It cannot compete with Hercules or Elfrida Pearson. Again, who would have said two years ago that Helen Lewis would so soon drop out of cultivation? John Ingman will have a struggle to hold its own in 1913, as Rosabelle will be a favourite. It is much more effective, both in the garden and on the table. The salmon shades are improving, both in size and vigour, and the same applies to most of the other colours. We cannot expect to see such distinct novelties every year as Mrs. W. J. Unwin, Charles Foster and May Campbell.

That there are still some lovely varieties to come I am convinced. The seed harvest of 1912 was bad in most districts, and this may delay the arrival of some of them. The following are a few I have seen: King White.—This is a wonder for size and purity. It is quite as large as Melba, has four blooms on nearly every stem, and often five. The blue Picotee edge is coming, both on white and cream grounds. These, I have been told, have taken some time to fix. Both will be very much in demand when offered. A Stirling Stent with the size and vigour of King White will make some of the keen hearts flutter when they grow it for exhibition. A large Mid Blue Spencer proves that the Lavender blood is not all exhausted yet. I saw one in July last, and it was a beauty—pure perfection.

The duplex varieties have quite as many admirers as opponents. There are some lovely stocks of these about the country. There is one duplex that has never given less than two double flowers, often three, and sometimes all four on a stem. When the raisers are able to offer it, the marketmen and those who grow for cutting will be pleased with it. I hope all the Sweet Pea lovers will have a good season. ANDREW IRELAND.

A BED OF UNSTAKED SWEET PEAS, SHOWING HOW THESE FLOWERS MIGHT BE USED FOR LARGE DECORATIVE BEDS.

HOW I GREW SWEET PEAS AT SUTTON GREEN.

IN connection with Sweet Peas there is nothing, to my mind, so interesting as growing different varieties for trial, and the person who has under his care such trials as those organised by the National Sweet Pea Society is to be envied by all Sweet Pea lovers. There are certainly few who have such an opportunity of becoming so well acquainted with the best novelties of the leading raisers previous to their being placed on the market. But such privileges are not without their responsibilities, for one can understand that a failure or two through the ravages of mice or disease or bad germination are not pleasant memories. There is also the grower who has one or more stocks

badly mixed, and who promenades up and down the rows saying that he cannot understand it at all, as they are quite fixed at home.

The germination at Sutton Green last year was remarkably good. Out of over two thousand one hundred seeds sown, over 93 per cent. germinated; but, of course, the seeds were all specially picked. All the same, a good deal was due to the potting material, which consisted of decayed turf and sandy soil containing little humus. The plants were strong and healthy, but hard; not, as one often sees, strong and sappy. These hardy seedlings can be planted out sooner and will not be so adverse to the changed conditions, and for this reason it is advisable to limit the richness of your potting material and pay more attention to the drainage. Ventilating freely in mild weather and gradual hardening off must not be overlooked. The method of cultivating the soil which was found from experience to be the most satisfactory should prove interesting to those Sweet Pea lovers having a sandy soil, the difficulty being, of course, to get the plants to last during dry spells. As soon as possible in October trenches 2 feet 6 inches wide and 1 foot deep were taken out and the soil placed between the trenches, there being ample room, as from the centre of one trench to the next 6 feet 6 inches was allowed. The bottom of the trench was deeply forked, and bullock-manure and about three pounds of bone-meal to a 20 yards run worked well in. The trenches were then left for the frost to work on the soil until February, when the top spit was replaced, a sprinkling of soot being added. Another point which must not be overlooked on sandy soil is deep and firm planting.

HARRY L. FOSTER.

A LITTLE-KNOWN AUSTRALIAN DAISY-BUSH, OLEARIA MYRSINOIDES.

COLOURED PLATE.

PLATE 1464.

FOUR GOOD SWEET PEAS.

THE four Sweet Peas shown in the coloured plate presented with this issue represent some of the best that have been introduced during the last few years. Each has some special merit to recommend it to those who are interested in Sweet Peas, and all are good for garden decoration, for cutting, or for exhibition. Walter P. Wright and Leslie Imber were both put into commerce by the raiser, Mr. W. J. Unwin of Histon, Cambs. The first named is regarded by many as the finest of its class, the large, pale lavender flowers being exceedingly pretty and freely produced on long, stout stems Leslie Imber is worth growing if only for the sake of its unique colour. Unfortunately, this is not well shown in the coloured plate. In reality the standard is medium blue and the wings a much deeper shade of that colour.

In the variety Edith Taylor we have a Sweet Pea that is quite distinct and one that is regarded by many as indispensable. It was raised by Mr. Robert Holmes of Tuckswood Farm, Norwich, and put into commerce by him last year. Mr. W. J. Leak, vice-chairman of the National Sweet Pea Society, has very kindly sent us the following description of it: "A most pleasing shade of deep rosy cerise or old rose. Quite distinct from any other variety. It has the advantage that the colour intensifies in the sun, whereas all others of a similar shade burn badly. The flowers are large, of fine form and beautifully waved, and the plant invariably produces four on a stem under good cultivation. It is of strong, vigorous growth.

Red Star was raised by Messrs. Dobbie and Co. of Edinburgh, and sent out by them last year. In 1911 it secured the distinction of an award of merit from the National Sweet Pea Society. It is a very deep rich scarlet self, and last year produced more stems with four flowers than any other scarlet variety we had.

THE ROSE GARDEN.

SOME OF THE NEWER DECORATIVE ROSES.

HYBRID TEAS.

(*Continued from page* 45.)

Lady Greenall (A. Dickson and Sons, 1911).—I referred to this under the exhibition varieties, but it is really as a garden Rose that it will be most useful. There is no reason why our garden Roses should not be as exquisite in shape as the exhibition varieties, provided they answer our other requirements. It is not so very long ago that the term "garden Rose" was almost synonymous with a Rose of indifferent shape; but now we are getting our garden Roses as perfect in shape (possibly smaller) as their exhibition cousins, and the Rose under notice is an excellent example of what I mean. The flowers are of beautiful shape. It would be hardly fair to call them of medium size, but they are not very large, with, however, a beautiful pointed centre, and good outside guard-petals that reflex. Colour, creamy white ground, suffused with saffron orange. It has a delicious Tea scent, and is quite free-flowering and a good grower. It is a Rose of distinction, and will be much used for bedding purposes when better known. I think I am correct in saying it was one of the most admired of the newer Roses in my garden last summer.

Lady Margaret Boscawen (Alex. Dickson and Sons, 1911).—Another Newtownards variety of excellent garden habit. It makes a very pretty button-hole even in the fully-expanded flower, as it is not too large for that purpose and of very pretty shape. The colour is soft blush, with a slight suggestion of fawn as the under colour; strongly Tea perfumed and holds its flowers erect. Not quite mildew-proof, but a good and pleasing Rose all the same, and one that will find favour with many.

Lady Pirrie (Hugh Dickson, Limited, 1910).—If this Rose had only a few more petals, it would be near perfection. There is no gainsaying the beautiful combination of colour, especially in the bud and half-opened flower stage. I will not attempt to do it justice—it has to be grown to be fully appreciated; but the outside of the petals might be termed of a coppery salmon, and the inside fawn and apricot. The bud is a good long one, and makes a button-hole that will take a lot of beating. The foliage and habit of the plant

Four good Sweet Peas—
1. Walter P. Wright. 2. Leslie Imber.
3. Edith Taylor. 4. Red Star.

Hudson & Kearns, Ltd., Printers, London, S.E.

are good, and it will become very popular, especially for decorative purposes indoors. It is undoubtedly one of the most beautiful Roses that the Belmont firm have given us. It was awarded the gold medal of the National Rose Society at the Royal Botanic Show in 1900, but was not sent out till the following year.

Lady Reay (Messrs. B. R. Cant and Sons, 1911).—This is another button-hole variety, and at the same time free-flowering enough for a bedder, although possibly the majority would choose a larger-flowered variety. The colour is blush pink in the centre, shading off to mother-o'-pearl white. My plants of it—and I had five—were always in flower last summer; but it might with advantage be a stronger grower. It is scented, and can be obtained at the reasonable price of 1s. 6d.

Leslie Holland (Hugh Dickson, 1911).—Although best known as an exhibition variety, I am inclined to think that at the moment this is the best bedding variety of its colour. We have long wanted a real good scarlet-crimson garden Rose. J. B. Clark and Hugh Dickson, both from this firm, will still be grown, the one as a pillar or semi-climber, the other as an exhibition Rose and as a fine standard; but for one of a set of, say, a dozen beds, they were both almost impossible by reason of their growth. Leslie Holland does not sin in that respect, and is, therefore, a much better bedder than either. It is a good grower, but not too vigorous, rarely throwing shoots more than 3 feet. I should say 2 feet is about the average height of the plant; free-flowering and fragrant.

Little Dorrit (Paul and Son, 1912).—Although figuring in most catalogues as a Tea, this Rose, when exhibited by the raisers at the autumn show of the National Rose Society, where it was awarded a silver medal in the new seedling Rose class, was termed by them a Hybrid Tea, and I should say correctly so. It is of almost China habit, and as seen growing in the Cheshunt nurseries of the firm was very free-flowering and a beautiful Rose, with something of the colour associated with Hugo Roller, only deeper. It will appeal to all as a most effective dwarf bedder. The centre flower of the spray is very prominent, of excellent shape. The colour is lemon yellow, splashed and edged with deep carmine rose that gives a coppery effect. Altogether a charming variety.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

THE NEW ROSE MRS. CHARLES RUSSELL, WHICH GAINED AN AWARD OF MERIT AT THE ROYAL HORTICULTURAL SOCIETY'S SHOW ON JANUARY 21. (*See page* 60.)

TREES AND SHRUBS.

A BEAUTIFUL DAISY BUSH.

(OLEARIA MYRSINOIDES.)

THIS graceful and evergreen species has long been in cultivation, but is still a somewhat rare plant in gardens. It has the habit of forming long, arching or trailing growths, densely clothed with rich dark green, wavy leaves, and is covered in all its upper parts with hundreds of Daisy-like flower-heads during the month of June. Each head is 1 inch in diameter, the ray florets being pure white, those of the disc being yellow and fading with age to brown. When seen at its best it is a really effective and valuable plant, and is well suited for trailing over a large rock or stones in the rockery. It is also useful for the front of the shrub border.

The largest plant with which I am acquainted is some 3 feet or 4 feet high and about the same in diameter, and is about eight years old from a cutting. A well-drained and sunny position, sheltered from the north and east, is the most suitable for this plant, and a compost which is of a rather poor or sandy nature is the best, although by no means absolutely essential, providing other conditions are favourable.

It is a common plant in Tasmania, and also occurs locally in Victoria and New South Wales, growing in poor, sandy soil or rocky, barren, scrubby places where little else can exist. In common with the majority of the species, it does not stand exposure to severe weather to any extent without suffering, and in selecting a suitable position in which to plant, shelter from cold, cutting winds should be taken into consideration, also bearing in mind that a stiff, heavy soil or wet position is fatal to success. The hardiest and, for general purposes, the best species of the genus is O. Haastii, a fairly common plant, especially in the South. Its merit lies in its floriferous and evergreen habit and in being a most useful shrub for town gardens where the soil is light and well drained.

C. P. RAFFILL.

THE SWAMP HONEYSUCKLE.

THE hardy Azaleas or Swamp Honeysuckles lend a touch of beauty to the shrubbery and woodland that no other subject can impart. The pleasing tones of colour created by masses of yellow, orange, fiery reds and delicate pinks are so beautiful in May and early June that they quite baffle description. Moreover, in the fall of the year the foliage assumes autumnal tints of bronze, purple, and even crimson hue.

In a general way these beautiful shrubs are spoken of as Ghent Azaleas, although in reality they have their origin in the bogs and uplands of North America. The Californian species, A. occidentalis, produces bunches of fragrant white flowers a little later in the year than most others, and this species is certainly one of the most charming in autumn tints. The pure white Ghent Azalea named Anthony Waterer is one of the most popular, while those with double Hose-in-hose flowers, called the narcissiflora group, are now widely grown. Azalea mollis, from Japan, with its host of varieties in salmon red and orange tones, are likewise hardy, and being dwarf are best suited for planting in the foreground.

This is quite a good season for the planting of Azaleas. While it is true that they are peat-loving shrubs, it should not be overlooked that they do quite well in loam, providing it is deficient in lime. The illustration on the next page shows the spring effect created by well-grown bushes.

SEASONABLE NOTES ON SWEET PEAS.

Multiplication of Sweet Pea Names.—In the "Sweet Pea Annual," among other matter of more or less general interest, Mr. Lester Morse of Santa Clara, California, gives his "Impressions of the Sweet Pea Show of 1912." These are mostly exceedingly flattering to the grower at home, and it cannot be doubted that Mr. Morse will be written down an excellent fellow; whereas, if he had ventured to be critical, as he could easily have been, our thoughts of him would have been the reverse of complimentary. The most interesting portion of his remarks is that in which he alludes to the multiplication of names in Sweet Peas. Mr. Morse says: "I was greatly impressed, and annoyed, when I came to my note-taking, to discover a hopeless confusion of new names. A hundred varieties I thought I easily recognised were shown under names I have never heard of, and frequently one variety bore four to six names. I thought last year that Margaret Madison was absolutely new, but I found it here under seven names. A variety we had named Veiled Lady, but which we will not send out, I found here with two other names, *i.e.*, The Abbot and Birdbrook. The Earl Spencer shade must have had quadruple twins and the Scarlet Spencers surely led the bunch. I pity the committee that attempts to straighten out the nomenclature."

I am, of course, sorry that Mr. Morse should be "annoyed" at anything that he found in this country; but his annoyance is not nearly as important as that of hundreds, probably thousands, of amateur Sweet Pea-growers at home. Purchasers of Sweet Peas are becoming disgusted with the descriptions in catalogues, and place little reliance upon them. They find different names, different descriptions, and growing one, two, three, or, according to Mr. Morse, anything up to seven, may find all the flowers identical or so closely similar that it would demand a wonderful power of imagination to discover the difference. They have no opportunity of ascertaining which varieties are distinct, except the personal experience which they cannot afford to give. I do not mean that they particularly begrudge the cash, but they do emphatically object to the waste of space which is entailed when one variety is unknowingly grown under a multiplicity of names. It will be said that they ought to go to the National Society's trials, but that is absurd. Not one person in fifty can do this, and many of them would not if they could

The fact is that in the old days they looked to the National Sweet Pea Society to keep them on the right track; but they do not do that now, because they find that scarcely anything useful is done in this direction by that powerful body. Mr. Morse expresses pity for the committee which is set the task of putting things right; but that task will have to be faced. A committee must be appointed, consisting of amateurs of ripe knowledge, and it must be given the widest powers to bracket varieties which are identical or so close that it is impossible for the ordinary man or woman to distinguish them. No trade grower must be on this body, because, no matter how conscientiously the committee did its duties, the decisions would not prove acceptable to the Sweet Pea world.

It is the amateur lovers of the Sweet Pea who keep the society going, and who, incidentally, make it worth the while of the trade to support that society in so generous a manner, and they are therefore entitled to be far more carefully considered than is the case at present. The "Sweet Pea Annual" is good, but it is not worth 5s. unless it contains information which cannot be got anywhere else and which is perfectly reliable. AMÆTHON.

[Although we publish the above, it does not mean that we necessarily agree with all the statements made by our correspondent. We do, however, endorse his remarks regarding the multiplication of names. Unless something very drastic is done to remedy this, the Sweet Pea, and also those who make it their business to grow seeds for sale, are bound to suffer.—ED.]

THE BEAUTIFUL SWAMP HONEYSUCKLE OR HARDY AZALEA. THE SHRUBS MAY BE PLANTED NOW. (*See page* 59.)

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Narcissus minicycla.—An early-flowering hybrid between N. minimus and N. cyclamineus, in which almost intermediate characters between the two species have been established. The taller growth is that of N. cyclamineus; the colour, the reflexing brim of the crown and its many divisions are characteristics easily traceable to the first-named parent. The Cyclamen-flowered character of the perianth segments, which is so marked a feature of N. cyclamineus, is apparently lost in the hybrid, the perianth segments being almost at right angles with the crown. The plants first flowered when four years old, and as shown were 4 inches to 5 inches high. In all probability a taller habit may yet be forthcoming. As an early variety it will be welcome in the alpine-house. From Mr. F. Herbert Chapman, Rye.

Cyclamen persicum St. George.—A deep salmon-coloured variety with crimson base to the petals. In this respect the variety is not superior to other salmon-coloured forms. The great attraction is in the handsome, well-marked leaves, some marbled and veined with white, others heavily bordered. The variety appears to reproduce these variations in large degree from seeds. From the St. George's Nursery Company, Harlington, Middlesex.

Rose Mrs. Charles Russell.—A variety with a gloriously rich perfume and fine form. Of its true colour we are not in a position to determine, the handsome vase of flowers gaining the award only reaching England from America the day prior to the last meeting. Those flowers having been cut some ten days from the plants, and probably cold-stored at once, would account for the nondescript colour tone—pale Pickling Cabbage red—as presented. The 2½-feet-long stems and highly-built flowers were of the usual American type, and which we in England might well imitate. Could we but also imitate America's sun during the winter season. The whole secret of such productions are sunlight and sunheat. (See page 59.) From Mr. W. A. Manda, St. Albans.

NEW ORCHIDS.

A first-class certificate was granted to M. Firmin Lambeau of Brussels for a magnificent variety of Cattleya Enid named Firmin Lambeau. Awards of merit were made to the following: Lælio-Cattleya Firmini ardens, shown by Firmini Lambeau; Cœlogyne intermedia, shown by Messrs. James Cypher and Sons; Odontioda Madeline Prince of Orange, from Mrs. C. J. Phillips of Sevenoaks; Sophro-Cattleya Orchid Dene, from E. H Davidson, Twyford; and Odontoglossum Aireworthii Goodson's variety, from Mrs. H. S. Goodson of Putney.

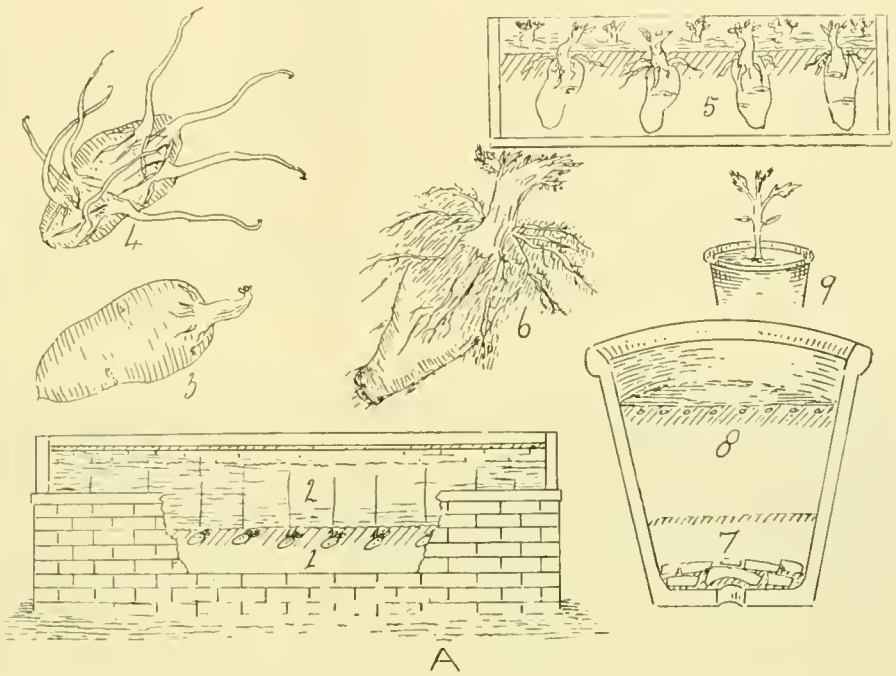
The foregoing awards were made by the Royal Horticultural Society on the occasion of the fortnightly meeting held on January 21.

GARDENING FOR BEGINNERS.

HOW TO RAISE EARLY VEGETABLES IN FRAMES.

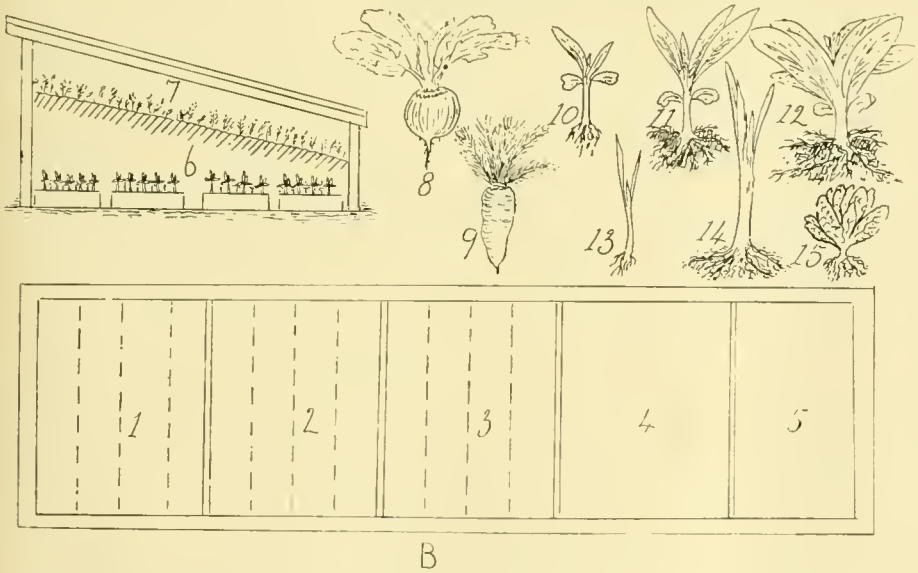
BY the use of cold frames, frames placed on hot-beds and those heated by hot-water pipes, several kinds of vegetables may be brought to maturity—that is, to a condition suitable for cooking—very early in the year. Such produce is highly appreciated. By the same means other kinds of vegetables may be considerably forwarded in growth. This is done by simply sowing the seeds in boxes, pots or beds in the frames, and then by carefully nursing the resultant seedlings under glass while the cold weather prevails, so that there will be a nice stock of sturdy plants fit to put out directly the weather and the soil in the garden are suitable. A great deal may be done in this direction by the use of one frame only.

Early Potatoes may be dealt with at once. In Fig. A, No. 1 shows how the seed tubers must be planted in a frame in a bed of good soil, put in to a depth of 1 foot. The surface of the soil (No. 2) should be 1 foot from the glass. If the frame is a very deep one, littery manure, tree leaves, or both, mixed, may be put in to fill up, the soil being placed on the bed. The latter will soon become warm and hasten the growth of the Potatoes. Wooden frames, as well as brick ones, may be used for this purpose. No. 3 shows a good seed tuber bearing one strong sprout only. Such generally produce a crop of fine eating tubers and few small ones. No. 4 is a tuber quite unsuitable for planting either in frames or in the open border. A succession of Potatoes may be assured by planting a few tubers at intervals of twenty-one days. Some of the tubers may be brought on by placing them in boxes and surrounding them with light soil, as shown at No. 5. The sprouts will grow and roots form, as shown at No. 6. These forwarded tubers should be carefully planted, when the growth will continue and young tubers soon form. I may say here that all frames should be covered with mats or straw on frosty nights; but it is essential to success that the maximum amount of light be admitted to all young vegetables, also fresh air when the weather is mild enough. No. 7 shows how to put the drainage material in a 12-inch pot, or in a box for seeds of Cauliflowers, Cabbages, Brussels Sprouts, Leeks, Lettuces, Tomatoes, Celery, &c. The seeds must be sown in the finer compost (No. 8). No. 9 depicts a young seedling Tomato potted singly in a 3-inch pot. These plants do well on a mild hot-bed.



EARLY CROPS OF POTATOES CAN BE EASILY RAISED IN FRAMES.

Turnips, Radishes and Carrots should be sown in shallow drills in cold frames, as shown at Nos. 1, 2 and 3 in Fig. B; or broadcast, as depicted in Nos. 4 and 5. Long, narrow frames such as these are very suitable for seedlings of Cauliflowers, Cabbages, Celery, Brussels Sprouts, Lettuces, &c., to be transplanted from the seedling-boxes, as shown at No. 6. A small wooden frame of this kind will accommodate many hundreds of seedlings in boxes. Such a frame may have a bed made up in it and Carrots grown, as shown at No. 7. Ventilate freely when the weather is not frosty. It is a fact that young Carrots form larger roots when the frame is removed after they are well established. This may be done late in March, exposing the crop to the wind. Early-maturing varieties of vegetables must be selected, of course; Turnips with small tops, as shown at No. 8; and Carrots of the French or English Horn types, as depicted at No. 9. No. 10 shows a seedling Cauliflower ready for transplanting; No. 11, the same ready for a second shift; and No. 12, the same fit to plant in a deeper frame, or in an open, sheltered border. Nos. 13 and 14 show how Leeks are strengthened by transplanting; and No. 15, a stocky Lettuce raised in a cold frame. G. G.



LETTUCE AND OTHER KINDS OF PLANTS FOR THE OPEN GARDEN MAY BE RAISED IN FRAMES AS SHOWN.

CLEANING THE LEAVES OF PLANTS IN HOUSES.

THERE is no time more suitable than the present for cleansing the leaves of various kinds of greenhouse and stove plants. In summer-time many kinds of foliage plants are freely syringed every week. This work prevents sediment lodging on the leaves; but in winter-time there is not much syringing done, and as there is more smoke from chimneys around, sediment accumulates on the leaves of the plants. Scale and other insect pests must be got rid of, and to this end we should use warm soapy water and a clean sponge.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Sweet Peas.—All ground for Sweet Peas should be prepared at once. Good deep trenching is essential, with a liberal supply of manure in the lower spits. Stations for clumps in borders or on the verges of lawns may with advantage have the soil renewed, thus ensuring good healthy growth. Where the grower depends on spring sowing, no time should now be lost, choosing those varieties which suit the individual requirements best.

Climbers, such as Vitis, Ivies, Honeysuckles, Clematises, Wistarias and wichuraiana Roses, whether growing on poles, arches, pergolas or on the house, should now be pruned. In some instances they may need tying or nailing in; in others a trimming up may be all that is necessary, taking off all the unsightly hanging growths of last season that are unnecessary for the proper furnishing of the structure they are on.

Pyrus japonica, now nicely in bloom in sheltered positions, should, if necessary, be cut back after the period of flowering is over; this only where the area to be covered is restricted. Plants trained on the houses must, of course, be kept spurred in, or they soon become rather unsightly.

The Pleasure Grounds.

Pruning.—Though I prefer pruning shrubberies rather later in the season to avoid the danger of severe frost, which at times kills the shrubs back, yet, where there is a great deal to do, the work must perforce be pushed forward, commencing with those in a sheltered position.

Digging.—Naturally, after pruning, the shrubberies should be dug whenever possible; and, needless to mention, if plenty of leaves are dug in, the leaf-soil will keep the plants in a good growing condition, it being the most natural form of manure and certainly all that can be afforded in many instances.

Plants Under Glass.

Liliums.—By this date all imported bulbs should be to hand and potted forthwith. For general decorative purposes single bulbs in pots are very useful; but for use as specimen plants in the conservatory or for cut-flower purposes, three to five may be potted in 8½-inch or 9½-inch pots.

Amaryllis.—Bulbs that flowered early last season will, on examination, be found to be pushing their flower-spikes, and should be removed to a house with an intermediate temperature. Very little water is necessary till the flower-spikes are well advanced, or the foliage may come away quickly, and thus rob the flower both of nourishment and good appearance.

Clarkia elegans.—Autumn-sown plants that have been wintered in 3-inch pots should now be potted on, still keeping them in a very cool position; also a further sowing should now be made for succession, these plants being extremely useful both in pots and for cut flowers.

Mignonette also should be potted into its flowering pots, either 4½-inch or 6-inch. Firm potting is very necessary to keep the plants dwarf and to get good flower-spikes. Where sown straight into their flowering pots, they may now be showing flower. If bushy enough, feed a little; if not, pinch the points out. This will induce them to break and make better plants.

The Kitchen Garden.

Peas.—Good batches of dwarf early varieties should be sown as soon as the ground is in a fit condition, preferably on a warm border, Laxtonian and Little Marvel being excellent varieties.

Broad Beans.—These also may be sown at once to succeed those sown outdoors in the late autumn. These latter, being pretty forward, may have the soil drawn up to them a little to preserve them from the frost if it is likely to be severe.

Parsley.—In cold districts this does not always winter well, and as that sown in frames runs to seed early, a sowing should now be made in boxes as a succession. This, if pricked off as soon as ready on to a warm border, will soon get away, and be found ready for use much earlier than that sown in the open a little later on.

Celery.—For very early work a sowing of one of the white varieties should be made in boxes or on a hot-bed, pricking it off as soon as large enough to handle.

Leeks.—For exhibition purposes early sowing of Leeks is quite essential, and these also may be sown in boxes or even singly in 2½-inch pots, pricking or potting off in the first case as soon as necessary, and in the latter potting on into 3-inch or 4½-inch pots. A temperature of 50° to 55°, with occasional sprayings overhead to assist germination, will suit them nicely.

Fruits Under Glass.

Early Peaches.—Whether these are pot or planted-out trees, as soon as nicely in bloom they should be fertilised by means of a rabbit's tail or some other pollen-distributing appliance, preferably about midday, after a little air has been put on to ensure the pollen becoming dry. This must be repeated every day or two till the last flowers have opened, and it invariably ensures a good set of fruit.

Hardy Fruit.

Spraying.—This has become one of the essentials of fruit cultivation, and the month of February is probably the best time to do it. To get the very best results, it is work that must not be performed in a haphazard manner, but every branch and crevice must be well wetted to ensure all the eggs or larvæ of insects being killed.

Mussel Scale.—The ordinary caustic alkali spray I have not found to kill the above, and as it is a most insidious pest when it once gets hold, great pains should be taken to try to eradicate it. Spraying with a strong paraffin emulsion will often loosen it, but the trees should be thoroughly gone over once or twice with a brush that is not too stiff, and, providing the operator takes his time and uses a good mixture of soft soap and paraffin, it can be got rid of.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Anemones and Ranunculuses.—Those who did not plant their Anemones of the coronaria type or their double French Ranunculuses in autumn may do so now, provided the weather conditions are suitable. Both delight in a rich, light soil deeply worked. Plant about two inches deep, and see that the crowns are uppermost. If sharp frost occurs, a little light protection should be given.

Chrysanthemums.—There need be no hurry with the propagation of early Chrysanthemums. Still, where the young shoots are pushing early, it is better to take cuttings now. They can be struck in boxes in a greenhouse with a rather close atmosphere. As to varieties, their name is legion; but Lady Mary Hope, Miss Balfour Melville, Lily, Rosie, J. C. Grieve, Massé Improved and Abercorn Beauty are worthy of inclusion in any collection.

Early Sowings.—Several things should be sown now, and, among others, East Lothian Stocks, one of the sheet-anchors of the gardener for a summer and autumn display. White, scarlet, crimson and rose shades are all valuable. Sow in pans or boxes, and cover with panes of glass till germination takes place. If water is required, always supply it by partial immersion. Other seeds to be sown now include Aquilegia, Centaurea candidissima, Pentstemon, Ricinus, Scabious and Verbena.

The Rose Garden.

Pruning Climbers.—All classes of Roses now embraced by that convenient word "Rambler" may now be pruned. Considerations of space forbid details, but, speaking broadly, all weakly or badly-ripened main shoots should first be cut away; then one or two of the oldest main stems, and a sufficient number of the best-ripened of last year's growth retained to replace those cut away. All laterals should be cut back to within a few eyes of the main stem. On pergolas and screen fences the only general principle to be observed is that of keeping the framework of the tree reinforced by timely supplies of young, well-ripened wood.

Planting.—Where from any cause the work could not be carried out in November, it should be pushed forward as soon as practicable. On heavy ground it will facilitate the production of young fibrous roots if a good spadeful of old potting soil is worked in among the roots when planting.

The Rock Garden.

Top-Dressing.—If the weather permits, the work of top-dressing may now be carried through with advantage whenever necessary. Different subjects require different soils, and a good plan is to take them in groups, making up a batch of soil that will suit (with modifications) a certain group and disposing of it first, and so on, group by group. Where it can be done without injury to the roots, the surface soil should be stirred a little before applying the top-dressing.

Plants Under Glass.

Repotting Ferns.—Many Ferns only require repotting every two years if the work of top-dressing is attended to. All plants requiring repotting should have attention, however, before growth becomes active, or the young fronds are apt to get damaged in the process. Recent experience has proved that peat is not a necessity for a great many species. This is especially the case with Adiantums and Pterises, both of which luxuriate in loam, Oak or Beech leaf-mould and sand.

Hydrangeas.—Old plants may now be repotted. Reduce the balls and pot them into a size larger than they occupied before. They are gross feeders and require a rich compost.

Pelargoniums of the Regal and fancy type should now receive their final shift, bearing in mind that they should be rather restricted as to root-room. Vaporise occasionally to ward off green fly.

Chrysanthemums. — Japanese varieties that were rooted singly in 2½-inch pots will now be ready for shifting into 3½-inch pots. For this potting a compost of loam, two parts, and good leaf-mould and old Mushroom manure, one part each, with a dash of sharp sand, will be suitable. Stand near the glass, and spray once a day for a week if the weather is bright. Decoratives as they become rooted must be gradually inured to full air and then be potted off into 3½-inch pots, two or three in a pot, according to the habit of the variety or the purpose for which the plants are ultimately intended.

Alpinia Sanderæ.—This is a near relative of the Ginger Plant, belonging to the Order Zingiberaceæ, and it is certainly one of the most lovely variegated plants in cultivation, as anyone can prove by paying a visit to the Royal Botanic Gardens, Edinburgh. It is planted out in one of the stove-houses there, where it is growing luxuriantly; but I understand it is equally amenable to pot culture. Somewhat Dracæna-like in general appearance, it seems an ideal plant for house decoration.

Sow Now Eucalyptus globulus and E. citriodora, Grevillea robusta, Saintpaulia ionantha, Smilax, Streptocarpus and Torenia Fournieri.

Fruits Under Glass.

Vines which have been bent downwards and have now broken freely should be tied up into position and disbudded. The late house may now be shut up and a night temperature of 45° maintained, with a rise of 5° during the day.

Strawberries.—The main batch should now be brought indoors and accommodated in a late Peach-house if available.

The Kitchen Garden.

Peas.—A sowing should now be made without delay, and Gradus is hard to beat for this sowing.

Leeks require a long period of growth, and they should be sown in rows a foot apart in rich soil on a south border. Where large sorts are aimed at, the Lyon is perhaps the best variety, but for general purposes Musselburgh (if true) is excellent.

Parsley.—A sowing should now be made indoors in a warm greenhouse temperature. As this vegetable is largely used for garnishing, some really good variety, such as Dobbie's Exhibition, should be used.

Carrots and Turnips.—An early sowing should now be made in a frame on a slight hot-bed, as recommended a fortnight ago.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

PLANTS FLOWERING OUT OF SEASON.

SOME INTERESTING RECORDS.

HAVING, since 1893, carefully noted abnormal dates of flowering in the case of certain wild or semi-wild flowers which are characteristic of their respective seasons, Mr. Bowles' article in your issue of the 18th ult. interested me greatly—so much so that I looked up my notes on the subject, and also the available rainfall records for the years antecedent to those noted.

My experience is that wild flowers are not so responsive to mild weather in autumn, winter and early spring as are garden flowers, so that for comparisons of this kind they are more valuable than the latter. Since 1893 the spring flowers have been exceptionally early in 1894, 1903 and 1912, as my records show, and, of course, in the current season, 1912–13. Out of the various flowers available which are generally very regular in their time of opening, I will take two as examples, namely, the common Snowdrop and the wild Sweet Violet. The Snowdrop's average appearance here is during the last few days of January or the first week of February, and wild Violets begin to blossom as a rule about March 21. In the years above mentioned they came into flower as follows: Snowdrop—January 20, 1894; January 27, 1903; January 6, 1912; December 26, 1912. Violet—February 20, 1894; February 17, 1903; February 18, 1912; January 7, 1913. These dates are, of course, those on which the first blossom was found, but the whole season in each case was correspondingly early; for instance, I found Hawthorn in leaf on February 7, 1903, and have already seen the young leaves unfolding this year.

The cause of this occasional precocity is more difficult to ascertain. The really warm winters and early springs since 1893 were 1894, 1896 and 1903. Last year, which was earlier than any of these, was not at all a forcing season from January to April. In 1896, which was the mildest winter I remember, and which followed a very hot and dry summer, the spring flowers, though earlier than usual, were later than in any of the years mentioned, and not far from the normal.

Mr. Bowles attributes this early flowering to spring drought, and, referring to the rainfall figures, we find the totals for the three months—March, April and May—were, in 1893, 1·08 inches (Greenwich); in 1902, 5·10 inches (Greenwich); in 1911, 4·15 inches (Woodbridge Abbey, Suffolk); in 1912, 3·39 inches (Woodbridge Abbey, Suffolk); or taking April alone ·12 inch (Greenwich); ·41 inch (Greenwich); 1·26 inches (Woodbridge Abbey, Suffolk); and ·19 inch (Woodbridge Abbey, Suffolk), all being below the average, and three of them very much below. All the autumns (September, October and November) were mild, but neither very warm nor very wet. The summers of 1893 and 1911 were very dry; in 1902 and 1912 they were wet as a whole, with dry periods; 1893 and 1911 were abnormally sunny during June, July and August; 1902 was about normal, and 1912 hardly saw a day's bright sunshine.

In order of early flowering the years were: (1) 1913, (2) 1912, (3) 1894, (4) 1903. The years 1894 and 1903 varied in order of precedence with different flowers; whereas in order of rainfall they were (1) 1893, (2) 1912, (3) 1911, (4) 1902, or, for April only, (1) 1893, (2) 1912, (3) 1902, (4) 1911. April, 1911, had the largest rainfall of the four years, and yet the spring flowers were earlier in 1912 than in either 1894 or 1903, which scarcely accords with Mr. Bowles' theory; and, again, the spring and summer of 1895 were nearly, if not quite, as dry and hot as 1893 and 1911, and yet 1896 does not come into the list at all. If, on the other hand, it is not April, but the general character of the spring which causes this earliness, why should this year be so much earlier than last, when there was only ·75 inch difference in the spring rainfall and six hours' difference in the sunshine records, 1911 having both more rain and more sun than 1912?

I am inclined to think that while there is a great deal in Mr. Bowles' theory, comparing the early years with one another, it looks as if there were some other factor at work as well. Can it be that we are still feeling the effects of the hot summer of 1911, but did not feel the effects of the equally hot summers of 1893 and 1895 respectively two years later because the winters of 1895 and 1897 were too cold? The remarkable similarity of my wild flower records for December, 1894, and December, 1912, supports this suggestion strongly, for it must be remembered that the severe winter of 1895 did not begin till the latter part of January and was most felt during February; or are we experiencing the effects of two dry springs with no intervening hard winter to neutralise them?

Hadleigh, Suffolk. T. H. DIPNALL.

A MODERN METHOD OF SHOWING SWEET PEAS. THIS LARGE AND BEAUTIFUL GROUP WAS STAGED BY MESSRS. SUTTON AND SONS AT WOLVERHAMPTON FLORAL FETE LAST YEAR.

CLASSIFICATION OF SWEET PEAS.

WE quote the following from the National Sweet Pea Society's Annual:

"The floral committee of the National Sweet Pea Society presents the following as an up-to-date selection of varieties placed in alphabetical order. * Indicates a grandiflora variety; all others are waved.

Bicolor.—Arthur Unwin, Colleen (A.M., R.H.S., 1909), Mrs. Andrew Ireland (F.C.C., 1908) and Mrs. Cuthbertson (A.M., R.H.S., 1912).

Blue.—Flora Norton Spencer, *Lord Nelson (A.M., 1907) and Mrs. G. Charles.

Blush.—Mrs. Hardcastle Sykes (A.M., 1905) and Princess Victoria (A.M., R.H.S., 1907).

Carmine.—John Ingman (F.C.C., 1904).

Cerise.—Cherry Ripe (A.M., 1910) and Decorator (A.M., 1912).

Cream, Buff and Ivory.—Clara Curtis (F.C.C., 1909), Isobel Malcolm and Paradise Ivory (A.M., 1908).

Cream Pink (Pale)—Gladys Burt, Lady Miller (A.M., 1912), Mrs H. Dickson (A.M., 1910) and Mrs. Routzahn.

Cream Pink (Deep).—Constance Oliver (A.M., 1908), Doris Usher (A.M., R.H.S., 1909) and Mrs. R. Hallam.

Crimson.—King Edward Spencer, Maud Holmes and Sunproof Crimson (A.M., 1909).

Fancy.—Afterglow, Charles Foster (A.M., 1909) and Prince George.

Lavender.—Florence Nightingale, Lavender George Herbert (Dobbie's), Masterpiece (A.M., 1910), R. F. Felton (A.M., 1912) and True Lavender.

Lilac.—Agricola (A.M., 1912).

Magenta.—Menie Christie.

Marbled and Watered.—*Helen Pierce (F.C.C., 1907) and May Campbell (A.M., 1911).

Maroon.—Black Knight Spencer, Nubian and Tom Bolton (A.M., 1906).

Maroon Purple.—Arthur Green (A.M., 1910) and Mrs. J. M. Gerhold.

Maroon Red.—Brunette (A.M., R.H.S., 1912) and Red Chief.

Mauve (Dark).—Helio-Paradise, Queen of Norway (A.M., 1906), Tennant Spencer and Wenvoe Castle.

Mauve (Pale).—Improved Bertrand Deal (A.M., 1912), Mauve Queen (A.M., 1911), Mrs. R. H. Carrad and Winsome.

Orange Pink.—Edrom Beauty (A.M., 1909), Helen Grosvenor and Helen Lewis (F.C.C. and S.M., 1905).

Orange Scarlet.—Dazzler (A.M., 1909), Edna Unwin (A.M., R.H.S., 1909) and Thomas Stevenson (F.C.C., 1911).

Picotee Edged (Cream Ground).—Evelyn Hemus (A.M., R.H.S., 1907) and Mrs. C. W. Breadmore.

Picotee Edged (*White Ground*).—Elsie Herbert (A.M., 1906), Marchioness of Tweeddale and Mrs. Townsend.

Pink (*Deep*).—Countess Spencer (F.C.C., 1901) and Hercules.

Pink (*Pale*).—Elfrida Pearson (A.M., R.H.S., 1910).

Rose.—Marie Corelli, Marjorie Willis and Rosabelle.

Salmon Shades.—Barbara (F.C.C., 1911), Earl Spencer (A.M., R.H.S., 1910), Melba (A.M., R.H.S., 1912) and Stirling Stent (F.C.C. and S.M., 1910).

Scarlet.—George Stark (F.C.C. and S.M., 1908), Red Star (A.M., 1911) and Scarlet Emperor.

Striped and Flaked (*Purple and Blue*).—Loyalty and Suffragette.

Striped and Flaked (*Chocolate on Grey Ground*).—Senator Spencer and W. R. Beaver.

Striped and Flaked (*Red and Rose*).—America Spencer, Aurora Spencer and Mrs. W. J. Unwin (A.M., 1909).

White.—*Dorothy Eckford (F.C.C., 1902), Etta Dyke (A.M., 1906) and Nora Unwin (A.M., 1907)."

THE BEST SWEET PEAS.

One of the most interesting features of the National Sweet Pea Society's Annual this year is the numerous answers to questions that were sent out to members at the commencement of the Sweet Pea season last year. Among these, members were asked to name the best six varieties of Sweet Peas for garden decoration, the best twelve Sweet Peas in cultivation, the best three novelties of 1911–12, and the six strongest-growing Sweet Peas. An analysis of the replies was compiled by Mr. J. Harrison Dick and published in the Annual, and we quote this below.

The following selections show, as the result of an analysis of "Expressions of Opinion," what the members generally consider the best varieties:

SIX BEST VARIETIES FOR GARDEN DECORATION.
(*Analysis of Answers to Question* 1.)

1.	Maud Holmes	33 votes.
2.	Etta Dyke	24 ,,
3.	Mrs. Hugh Dickson	21 ,,
4.	Thomas Stevenson	18 ,,
5.	Elfrida Pearson and Mrs. W. J. Unwin	16 ,,
6.	Nettie Jenkins	15 ,,

TWELVE BEST SWEET PEAS IN CULTIVATION.
(*Analysis of Answers to Question* 2.)

1.	Thomas Stevenson	53 votes.
2.	Clara Curtis	42 ,,
3.	Elfrida Pearson and Maud Holmes	40 ,,
4.	R. F. Felton	39 ,,
5.	Elsie Herbert	37 ,,
6.	Nubian	36 ,,
7.	Mrs. C. W. Breadmore	35 ,,
8.	Etta Dyke	33 ,,
9.	Hercules	30 ,,
10.	Mrs. Hugh Dickson and Sunproof Crimson	23 ,,
11.	Barbara, Edrom Beauty, John Ingman, Melba and Mrs. Cuthbertson	21 ,,
12.	Charles Foster and Mrs. W. J. Unwin	20 ,,

BEST THREE NOVELTIES OF 1911–12.
(*Analysis of Answers to Question* 3.)

1.	R. F. Felton	36 votes.
2.	Mrs. W. Cuthbertson	18 ,,
3.	Edith Taylor	15 ,,

Other varieties finding favour were: Melba, 14; Barbara, 13; Scarlet Emperor, 11; Red Star, 8; Thomas Stevenson, 7; W. P. Wright, 7; Afterglow, 6; and Hercules, 6.

SIX STRONGEST-GROWING SWEET PEAS.
(*Analysis of Answers to Question* 4.)

1.	Mrs. C. W. Breadmore	38 votes.
2.	Elsie Herbert	34 ,,
3.	R. F. Felton	27 ,,
4.	Hercules and Maud Holmes	22 ,,
5.	Mrs. W. Cuthbertson	20 ,,
6.	John Ingman and Sunproof Crimson	16 ,,

THE EDITOR'S TABLE.

Cotoneaster angustifolia.—Mr. J. Comber, Nymans Gardens, Handcross, Sussex, sends fruiting sprays of this interesting shrub with the following note: "Some fine sprays of this Chinese shrub were exhibited by Mr. G. Paul on behalf of the grower, M. Vilmorin, at a meeting of the Royal Horticultural Society on November 29, 1904, when it received a first-class certificate. Subsequently a coloured plate appeared in THE GARDEN. Many besides ourselves must have been induced to try it, and it is probable that there are now numerous fine specimens in this country; but, as far as I am aware, very few have been recorded. A specimen planted in 1905 has for the past two seasons fruited abundantly in these gardens. At first it grew rapidly, soon reaching the height of 6 feet, afterwards making horizontal shoots 2 feet or 3 feet in length each season. The points rarely matured, and were more or less injured by frost. Transplanted to poorer ground and an open, sunny position, it has since reached the width of 12 feet; but the growth is sturdy and has borne an increasing quantity of fruit. The berries are the size of small culinary Peas, and cast their downy covering in October, gradually passing from greenish yellow to brilliant orange yellow. Their abundance gives the plant a most ornamental appearance. Unfortunately, as far as my experience goes, they are not very persistent, for having lasted in full beauty only six weeks, they now (January 22) fall readily at the slightest touch. No pruning is needed, the plant as it ages forming a handsome bush."

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

DOUBTFUL PLANT (*Enquirer*).—In all probability you are enquiring for Senecio elegans, which may be obtained from any good seed-house in crimson, purple, rose, white and other shades. All are easily raised from seeds, the varieties ranging from 9 inches to 18 inches high.

ADONIS FROM SEED (*E. T. W.*).—All the Adonises should be sown soon after maturing, preferably in slight warmth, *i.e.*, 45° or 50°. A light, sandy, well-drained soil is best, and a soil covering about twice the depth of the seed. Where the seed is long kept out of the soil, it is apt to remain two seasons before vegetating. We do not know the species referred to, and would be interested to learn more concerning it.

ANNUALS FOR SHADY BORDER (*Regular Reader*).—Most annuals prefer sun, though many are quite indifferent. One of the most important, of course, is the Sweet Pea, particularly the scarlet shades, which not infrequently "burn" when grown fully exposed. For several years we have grown a collection within the shade of fruit trees. Others of service are Asters in variety, Cornflower, Calliopsis, Candytuft, Sweet Sultan, Statice sinuata and the Wallflowers Antirrhinums and Canterbury Bells among biennials are worthy of note and, if well grown, are capable of a good display.

JUDGING SWEET PEAS (*V. C.*).—As you have had no experience in judging Sweet Peas and do not know the points which go to make a good spike, the best thing for you to do is to leave the task to someone better qualified to undertake it. It is unfair to you to be called upon for so technical a duty, and unfair to the exhibitors that their blooms should be adjudicated upon by one who is not fully qualified. If you write to Mr. Charles H. Curtis, 2, Adelaide Road, Brentford, Middlesex, he will gladly send you the rules of the National Sweet Pea Society, and for 2s. would send you a copy of the "Sweet Pea Annual," containing the report of a conference on judging; but you must specify that it is this particular one that you want. No; two competitors may not enter.

PRIMULA FROM AROLLA (*R. S.*).—If the Primula is really P. farinosa, it would now be more or less in the crown-bud stage. The plant in flower is 4 inches to 6 inches high, the rosy lilac flowers borne at the summit of a frail stem covered by a dense whitish meal or farina. The leaves are also similarly characterised. The plant is plentiful in the upland pastures of the Alps. The first week of May would be early to flower it, unless frame culture be resorted to throughout, and even then a little artificial heat may be necessary. Such treatment, however, robs these things of their grace and charm, and not a little, too, of the colour. In the larger pot the plant should flower well. It is by no means difficult to grow, and is best perpetuated by means of seeds sown as soon as ripe.

GENTIANAS (*A. de G.*).—The main essentials for the successful culture of Gentiana acaulis are a sunny position, good loamy soil with a fair proportion of gritty sand and a reasonable amount of moisture. If it is intended to divide the plants, the best time to do so is directly the flowers are over; but when established clumps are obtainable, they may be planted during the autumn and winter months whenever the weather is suitable. They should be planted firmly, and it is very essential that they are at no time allowed to suffer for the want of moisture. The hardy Cyclamen may be planted in early autumn when dormant or nearly so.

DRAINAGE FOR ROCKERY (*H. J. C.*).—Either the clinkers or the chalk would do quite well—anything, indeed, that will permit of a free passage of superfluous moisture. You might, in your case, have 9 inches of it before you start building, though this amount might require modification, according to circumstances. For example, you say nothing of its position, high or low, whether on sloping bank, nearly level ground, or in a depression. If the rockery is of any extent, a little expert advice on the spot would be money well spent, and probably save you much future disappointment and many failures. Sandstone will do quite well if of the right kind. Some sandstones, however, are of little value. Grit and leaf-mould and the addition of burnt ballast would be much better for mixing with the soil than chalk from the gas-works, which may to some extent be impregnated by the gas itself. A heavy soil is certainly not the best for the cultivation of choice alpines, though you do not say what you contemplate cultivating.

PLANTS FOR STREAMSIDE BORDER (*Asphodel*).—For this particular purpose the Tunica, Sedum, Androsaces and Geranium would be quite unsuitable; the Caltha, much too early in flower. The Œnothera is also a trailing subject far better suited to the rock garden or rockery border, where it might trail among stones. Indeed, the only really suitable things your list contains are the Lobelias and Japanese Irises. To these latter you might add I. aurea, I. Monnieri and I. pallida dalmatica. Other good things would be some of the newer Astilbes, as Ceres, Peach Blossom and Queen Alexandra, Spiræa Filipendula fl.-pl., Lobelia cardinalis, L. Queen Victoria, Lilium canadense (in peat), Primula japonica, P. pulverulenta (a notable plant indeed), Anemone japonica in red, pink and white shades, and Senecio Doronicum. To make a show, the whole of these should be planted in groups, say, three or half-a-dozen plants to each group. As you say nothing of the extent of the border, we cannot suggest in this direction at all. The easiest rock plants to raise from seeds are Aubrietia, Alyssum, Saxifrages (Mossy sorts), Tunica Saxifraga, Silene alpestris, Achilleas (any), Acantholimon glumaceum, Campanulas in variety, Sedums, Saponaria ocymoides, Armeria, Erinus of sorts, Iberis, Coronilla, Hutchinsia alpina and Dianthus in variety.

ARUM LILIES FOR STREAMSIDE GARDEN (*L. B.*).—Calla elliottiana differs so markedly from the ordinary Arum that you are not at all likely to succeed with it under the conditions named. In the first place, the ordinary kind (Calla or Richardia æthiopica) is a native of Cape Colony, where it frequents ditches and similar spots, and in some places there frosts are not unknown. C. elliottiana, on the other hand, comes from a warmer district further North; hence it would not survive an English winter. There yet remains another and very important item, and that is the ordinary Arum is practically an evergreen unless it is dried off during the summer; whereas elliottiana behaves quite differently. This last named forms a flattened tuber, much resembling that of a Caladium, and, like it, passes the winter in a totally dormant state, during which period it should be kept quite dry. Shaken quite clear of the old soil and repotted in February in a mixture of loam, leaf-mould, well-decayed manure and sand, it will, in a temperature of 55° to 65°, start freely into growth and push up its handsome, spotted leaves, soon after which the flowers make their appearance. When the pots get full of roots, an occasional stimulant will be helpful. After flowering, the plant must be kept in the greenhouse in order to encourage growth and the formation of flowers for another season. By the end of the summer the plant will show signs of going to rest by the leaves turning yellow. When this happens, the water supply must be lessened, and, when quite dormant, discontinued altogether.

TREES AND SHRUBS.

CLIMBERS FOR HURDLES (*A. C.*).—A mixture of green-leaved Ivy and Jasminum nudiflorum would look very well in the position you describe, or, if the position is not exposed to great cold in winter or early spring, Escallonia langleyensis might be used. The latter plant forms long, graceful shoots, and bears large quantities of rosy red flowers during the summer. It will stand 15° or 18° of frost without harm, providing the frosty period is not a prolonged one; but when over 20° are experienced it is liable to injury. The Ivy and Jasmine combination forms, of course, a pretty winter effect, for the flowers are at their best during January. The greenery of the Ivy, however, remains the year round, and a summer-flowering Clematis might be placed with it, for that could be cut down in winter.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Sweet Pea Edith Taylor.—On page 52 of our last issue we inadvertently stated that this Sweet Pea was sent out by Mr. Robert Holmes. Although raised by him, it was sent out by Robert Sydenham, Limited, Tenby Street, Birmingham.

Two Uncommon Ornamental Trees.—Planters of ornamental trees are sometimes at a loss to know what to secure in the way of uncommon subjects. Two distinct trees for planting in gardens are Cedrus atlantica pendula and Pinus sylvestris aurea, the former a weeping form of the well-known Cedrus atlantica, the latter a beautiful golden form of Pinus sylvestris. Both are splendid for isolated specimens in the pleasure grounds.

The Victoria Medal of Honour in Horticulture. — To fill the three vacancies caused by deaths during the past year, the Council of the Royal Horticultural Society have bestowed the Victoria Medal of Honour in Horticulture on Mr. Divers, the well-known head-gardener at Belvoir Castle; Mr. Whytton, Superintendent of Glasgow City Parks; and the Rev. W. Wilks, for twenty-five years the esteemed secretary of the society.

A Primula Conference.—On April 16 a Primula Conference will be held by the Royal Horticultural Society at Vincent Square, when Sir John Llewelyn, Bart., will occupy the chair. The papers to be read are as follow: "Himalayan Primulas," by Mr. Craib of Kew; "European Hybrids in Nature," by Mr. Reginald Farrer; "Primulas from a Garden Point of View," by Miss Jekyll; "Chinese Species of Primula," by Professor Bayley Balfour, F.R.S.; and "European Primulas," by Dr. John McWatt.

Dwarf Shrubs for the Rock Garden.—Among dwarf shrubs for planting on narrow borders or on the rock garden, the following are very interesting, and are not seen so often as their merits deserve; Berberis buxifolia, Olaria niummulariæfolia, Genista sagittalis, Veronica cupressoides, and V. pinguifolia, the latter having grey foliage. These subjects are of easy cultivation, and do not require constant pruning to keep them in shape. Many so-called dwarf shrubs are only kept in bounds by constant pruning, and however neatly this operation is performed, it is often advisable to use plants which do not require the constant use of knife or shears.

Ornamental Crab Apples for the Conservatory.—Among the numerous hardy trees and shrubs which are forced for conservatory decoration, the best of the Crab Apples are great favourites, both on account of their free-flowering qualities and delicate colouring. A group composed principally of Pyrus floribunda, its variety atrosanguinea, and the semi-double-flowered P. Scheideckeri was noted on January 25 in the greenhouse at Kew, where it was certainly one of the daintiest and most admired features. The plants of P. floribunda were 10 feet or 12 feet high and well flowered throughout, P. Scheideckeri being bushes 3 feet or 4 feet in height. The elegance of such plants and the pretty shades of the flowers open up a wide field of possibilities for the exercise of the decorator's art, for in conjunction with white-flowered or foliage plants many effective arrangements might be made.

A Useful Annual for the Greenhouse.—Among the various annuals that, sown in pots in the spring, are of considerable value for the embellishment of the greenhouse later on must be included Rhodanthe Manglesii and its white-flowered variety. The seed sown now will quickly germinate, and, providing it is grown in a good light, airy position in the greenhouse, so that the young plants do not become drawn, it gives but little trouble. By some the seeds are sown in the pots in which they are to flower, while by others they are sown in pans or boxes and pricked off therefrom into their flowering pots, which are, as a rule, 5 inches in diameter. From eight to ten plants are put in a pot.

Apples with Many or No Pips.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Chittenden showed specimens, to which reference has already been made, of Apples having more than two seeds in the capillary cells. The variety Duchess's Favourite had, as a rule, in the past season four seeds in each cell, and in one case five had been found. This is remarkable, as the number in the wild types is practically constantly two, and that has been used as a basis of separation between the genera Pyrus and Cydonia. He also showed specimens of an Apple called No-Pip, which was reputed to form no seeds, although the Apple was perfectly developed. Those exhibited had only the merest rudiments of seeds, apparently no larger than the ovules had been.

Camellia reticulata.—To many people the irregular-shaped flowers of this species appear more beautiful than the flowers of the varieties of C. japonica with their formal outline, and everyone who sees a bush in full bloom is impressed by its beauty. A native of Hong Kong and China, it forms a large bush, with longer and more slender shoots than C. japonica. The flowers resemble those of a semi-double Pæony, for the red petals are of irregular size and shape, and enclose a central mass of yellow stamens, a single flower being from 5 inches to 6 inches across. Unfortunately, it is less hardy than C. japonica, and may not be grown out of doors, even in the milder counties, unless it is given the protection of a wall. It is, however, an excellent plant for planting in a border in a greenhouse or conservatory, where it may be trained against a wall or allowed to assume bush form. Under glass it blooms during January and February.

CORRESPONDENCE.

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

The Herbaceous Border at Hopetoun House, Linlithgowshire.—In my notes in THE GARDEN of January 11, page 22, I regret having omitted to give the dimensions of the fine herbaceous border at Hopetoun House, an illustration of which was given. The total length is 167 yards and the width 18 feet.—C. BLAIR.

Rose Herzogin Marie Antoinette.—I was much interested in Mr. Herbert E. Molyneux's note on the above Rose on page 45 of THE GARDEN for January 25, and was glad to observe that he had grown it. Many Continental varieties of great merit are apt to be overlooked, and the Rose under notice is a case in point. It is certainly a good decorative Rose.—GEORGE M. TAYLOR, *Midlothian.*

Fatsia japonica Hardy in Lancashire.—In reference to the note about this plant on page 30, issue January 18, it may interest readers to know that it is quite hardy here. There is a plant of it here that has been outdoors for eight years, and it is a fine one, with leaves down to the ground. It is 5 feet 6 inches high and as much through. It has had no protection whatever.—H. GLOVER, *Orrell, near Wigan.*

Plants Flowering Early.—I have read with interest your various correspondents' notes on the early flowering of various plants. In these gardens on January 8 there were fifty-three different species of plants in bloom outside, the most remarkable being Olearia Gunnii, which had ten flowers open and numerous others on the point of bursting, and Staphylea colchica, with four sprays of blossom fully open; while Anemone alpina, A. blanda and Cyclamen Coum are patches of bright colour.—A. GRANT, *The Gardens, New Place, Haslemere.*

Flowers in British Columbia.—So many people are now interested in Canada, but I think the climate in places is misunderstood. For instance, here in my garden in Victoria, B.C., I had the following plants in bloom on January 3: Roses, Chrysanthemums, Auriculas, Violets, Geraniums, Snowdrops, Hypericums, Calceolarias, Helleborus, Aubrietias, Pansies, Primroses, Wallflowers, Stocks, Fuchsias, Dianthuses, Antirrhinums, Cineraria stellata, Daisies, Lupines, Primulas, Eschscholtzias, Hollyhocks, Portulaca, Poppies, Mignonette and Arabis.—T. B. PEMBERTON.

The Hardiness of Campanula isophylla.—At the conclusion of a lecture which I gave the other day, an interesting discussion took place on the question of the hardiness of Campanula isophylla. In my lecture I stated that I had been unable to keep it in the open in the neighbourhood of Dumfries; that I had never seen it standing in the open in this part of the country; and that the finest plants of C. isophylla I had ever seen in the open were in Ireland. Several who were present practically confirmed what I had said regarding this Bell-flower in this part of Scotland, but one gentleman stated that when in Lancashire he had seen C. isophylla standing through the winter in pots in the open, and subjected to treatment which many professedly hardier flowers would not stand. In view of these remarks it would, I think, be an advantage if others who have tried C. isophylla out of doors would give us the benefit of their experience. I may add that the plants in Ireland to which I referred were grown on a sheltered wall in Dublin and were exceedingly fine. Nowhere do we see this plant better grown than in cottage windows, and many fine examples are to be met with in this district.—S. ARNOTT, *Dumfries.*

Old Cyclamen Plants.—In THE GARDEN for January 18 you ask readers for particulars concerning the age of Cyclamen. I have a friend who has some plants twenty years old, and which flower profusely each year. I have seen them yearly for the last six years, so I can vouch for their flowering well. Speaking to him last week on the topic, he informs me that they can be kept as remarked in your note. He also believes in keeping them when he has good colours, as he knows what he is growing.—GEORGE CRABBE, *Woodside.*

Sowing Early Peas.—I quite agree with the method of sowing seeds of early Peas as practised by the late Mr. Charles Foster and referred to in "Notes of the Week," issue January 18. For several years, having ample space in a six-acre kitchen garden, I sowed some seeds of early varieties of Peas in December and January and chanced what the result would be. Having plenty of dry soil from the potting-shed and root stores, I covered the seed 1 inch deep with it in a dust dry state, and then put on a thin layer of the border soil. The border was a warm one on the south side of a 12-foot-high fruit wall, and we had no failures except once, when rats did a lot of damage. The pods were ready to gather about a week earlier than those grown on plants from later sowings.—AVON.

The Newer Roses.—On page 21, date January 11, is a suggestion by Mr. H. E. Molyneux that readers should send a list of the newer varieties they have tried and proved satisfactory. Among others, we have tried the following, which have, on the whole, in growing and flowering given every satisfaction: Miss C. Forde, Lady A. Stanley, Mrs. C. Miller, Lady Pirrie, Jonkheer J. L. Mock, Mrs. A. Munt, My Maryland, Entente Cordiale, Mrs. E. G. Holland, E. Mawley, Herzogin Marie Antoinette and Rosomane Thomas (catalogued as a Tea variety). To particularise, I may add that Mrs. Holland, E. Mawley and Herzogin Marie Antoinette do not appear any too strong in making growth, but perhaps time may set this matter right, while the last of the three is very free-flowering. I think this list only dates back to 1909. Our soil inclines to stiffness, and the plants get liberal attention.—C. T., *Highgate.*

Roses Grown Near London.—A few words regarding a Rose which I have seldom seen mentioned in your columns, but which I have found a very suitable one for town gardens, may be of interest. I refer to Mme. Hector Leuilliot. While it is quite true that it is not one of those Roses which are remarkable for their freedom in producing flowers, still, I think it is well worthy of being more generally grown, it being very hardy, a good strong grower, with lovely foliage, and one that appears to thrive on a poor soil. The colour of its blooms is extremely rich orange, the outer petals being somewhat paler and prettily veined; they have, moreover, a pleasant, fruity fragrance. In a cool summer similar to what we experienced last year, the blooms are even deeper and richer in colour. The blooms are full and hang their heads slightly, but I do not consider that this detracts anything from their loveliness when the plant is grown at the foot of trellis-work and the growths trained and tied back to hide the same. A tree of this variety that I have growing in this manner made splendid growth even for the remarkable summer we experienced last year. One shoot I measured was fully 14½ feet long, while some of the leaves on it were 10½ inches in length. This vigorous growth appears wonderful to me when taking into consideration the light, stony soil in which it is planted and how confined the gardens are in the immediate vicinity where I reside. Perhaps some others of your readers would give their experiences with this variety.—H. A. FORDHAM, *Forest Gate, E.*

Ranunculus Lyalli in New Zealand.—As the writer of a note on this subject which appeared in THE GARDEN about two years ago, I was, naturally, greatly interested in Mr. Willcox's note and the charming illustration of a portion of his rockery which appeared in your issue for January 18, page 34, with R. Lyalli (one of the finest of all sub-alpines) nestling in the background. In my note I advocated its extended culture in this country, but was informed by your esteemed correspondent Mr. S. Arnott that the plant is difficult to establish, and that attempts had been made which mostly proved a failure. However, I was determined to try, and had two plants sent me by my sister from Invercargill, New Zealand. They, however, proved a failure; the long journey had extracted their vitality to such an extent that after a brave struggle to live they gradually dwindled away. Still, I firmly believe that if we raised our plants from seeds, success would be more assured, and if we follow Mr. Willcox's cultural directions we might establish this new plant in our own country.—J. E. DAVIES, *The Gardens, Talygarn, South Wales.*

Serious Losses Among Roses in Linlithgowshire.—Not for many years have our Roses suffered so severely as they have done during the present winter. Climbers on walls, arches and pillars, in particular, are a sorry sight, while dwarfs have by no means escaped. In this garden our Rose arches are of painted iron, and at first I was inclined to blame these for the losses, but on examining a row of wooden pillars connected by hempen ropes, I find the destruction quite as heavy, while also in other gardens in the district, where all arches, pergolas and pillars are of rustic woodwork, the same serious state of affairs is in evidence. Now, the winter, on the whole, has been anything but severe, so far as frost is concerned, but, owing doubtless to the cold, wet summer, growth was made so late that the wood was very imperfectly ripened, and what frosts we had found everything green and full of sap. The most severe frosts were from November 27 till December 3, and it was this spell of cold weather that did the mischief. So far as my observation serves, the only climbing Rose that has totally escaped is our old friend Gloire de Dijon. All our plants of this are on walls, so that they have all the shelter going, but as Crimson Rambler, Grüss an Teplitz and others have suffered more or less severely when trained in similar positions, it seems evident that the good old Gloire is the hardiest of all climbing Roses. A good big plant of Hiawatha on an arch is quite killed, as is also a weeping standard of White Dorothy. As I have already said, the dwarfs have not entirely escaped, but it is just too early to determine how serious the loss is among these. Perhaps readers in other parts of the United Kingdom will briefly state their experiences in regard to this matter.—C. BLAIR, *Preston House Gardens, Linlithgow.*

Laurustinus lucidum.—In the various paragraphs that appear from time to time regarding the Laurustinus, I am surprised that no one refers to the variety lucidum. This has a large, polished, dark green leaf, not corrugated like the type, and the flowers are at least twice the size of the common kind. It is fairly common in Cornish gardens, but is quite hardy. It is not easy to obtain from nurserymen, who sometimes supply the French variety (much inferior) in place of it. It can be obtained in Ireland. I should like to know when it was introduced and from where.—J. A. D., *Noctorum.*

Clematis indivisa in New Zealand.—I am sorry that I am not near enough to send you some flowers for your table, but please accept a photograph of a plant of Clematis indivisa, which was planted two years ago in my garden. It covers the top of a rustic fence for a distance of 16 feet. Unfortunately, the camera could not include the whole length. Viewed from the other side, the mass of flowers looked even finer than this, but the background was poor. The plant began to flower on July 20, and there were still a few flowers to be seen at the beginning of November.—FRANK MASON, *Whakaronga, New Zealand.*

CLEMATIS INDIVISA IN A READER'S GARDEN IN NEW ZEALAND.

SOLUTION AND NOTES OF ACROSTIC No. 7.

"HEATH"—"ERICA."

*1.	H	, ELLEBOR	E
2.	E	SPALIE	R
3.	A	MPELOPSIS VEITCHI	I
4.	T	SOPMO	C (compost)
†5.	H	ENN	A

H. Andrews published a monograph of the genus Erica between 1804 and 1814. Loddiges and Son were celebrated nurserymen at Hackney early in the nineteenth century. Erica was the name used by Pliny.—See Nicholson's "Dictionary of Gardening."

* Christmas Rose (H. niger) and Bear's-foot (H. fœtidus). † Folkard's "Plant Lore," page 24. Mahomet called it "chief of the flowers of this world and the next." It is now known as Lawsonia alba.

SOLVERS OF ACROSTIC No. 6.

CORRECT solutions of Acrostic No. 6 were sent in by the following: "Leander." L. A. Louden, "Elm, Bampton," "H. A. T.," Mrs. F. Jones, "Nemo," "Ian Dhu," William Bond, "Rustic," "Retrac," "R. P. B.," "Tempus Fugit," "Briarbank" and Miss G. M. Hallowes. In our next issue we hope to publish the names of those who have correctly solved Nos. 7 and 8, and also the names of the prize-winners.

FORTHCOMING EVENTS.

February 10.—United Horticultural Benefit and Provident Society's Meeting.

February 11.—Royal Horticultural Society's Annual Meeting.

February 12.—East Anglian Horticultural Club's Meeting.

February 14. — Finchley Chrysanthemum Society's Annual Meeting. Beckenham Horticultural Society's Meeting and Lecture.

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener.

The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed and mounted P.O.P. prints must be sent.
5. All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in for competition will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed for the purpose, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken to return them uninjured.
7. The Proprietors of THE GARDEN reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

SCIENCE IN RELATION TO HORTICULTURE.

HYBRIDISATION.

THE art of hybridisation has gained enormously by the far-reaching discoveries of Mendel. It is no longer a game of chance between the experimenter and Nature. Mendel's carefully-planned researches drew from Nature a knowledge of the controlling laws under which sexual reproduction worked, and of the new forms of life she called into being. No hybridiser nowadays need experiment at random. His work can be carried along definite and well-defined lines, and, having discovered by experiment certain factors, he is able to foretell the likely results of mating this parent with that. Mendelism, therefore, has given a great impetus to the practice of hybridisation, and has largely contributed to the enrichment of our gardens with improved strains of cultivated plants. A good illustration of the application of Mendel's law, as it is conveniently called, to practical gardening is furnished by a series of interesting experiments on Tomatoes recently carried out at the New York Agricultural Experimental Station by R. Wellington.

Mendel's Laws.—To understand the meaning of the results obtained in these experiments it will be necessary, first, to explain—to those who are not familiar with the working of Mendelian factors—one or two of the first principles underlying the science of hybridisation. The factor determining any given character of a plant, such as height, is inherited; that is, it is transmitted from the seed parent to the offspring or seedling. Pure-blooded "talls" when mated will always produce talls, as the pollen as well as the ova carry the same kind of factor. But what will happen if the pollen

or ova of one parent carries the factor of tallness, and the pollen or ova of the other parent carries the factor of shortness from a pure strain of dwarfs? While the offspring will obviously inherit the power to produce both characters, it is also obvious that it cannot be both tall and short at the same time. It must be one or the other, unless, indeed, it makes, as it were, a compromise and becomes neither the one nor the other, but simply grows to a medium height. But it may not take this latter course, in which case one of the characters will be "dominant"; that is, it will master the other, or "recessive," as it is called. Tallness in Sweet Peas, for example, is dominant to shortness. It follows from this that when a dwarf and a tall Sweet Pea are mated, the progeny of the cross *in the first generation* will be all tall and all hybrids, hybrid because, although they are all tall, yet they all contain the factor of dwarfness in subjection. Now the next point to understand is that while an individual plant may be hybrid, the individual *pollen* and *ova* produced by that plant can *never* be hybrid in its nature. As the pollen grains are formed, the Mendelian characters separate in twos and twos equally, so that half the number of pollen grains possess the factor of tallness and half the factor of dwarfness, and the same thing happens with respect to the ova, thus:

Pollen.	*Ova.*
1 T	3 T
2 D	4 D

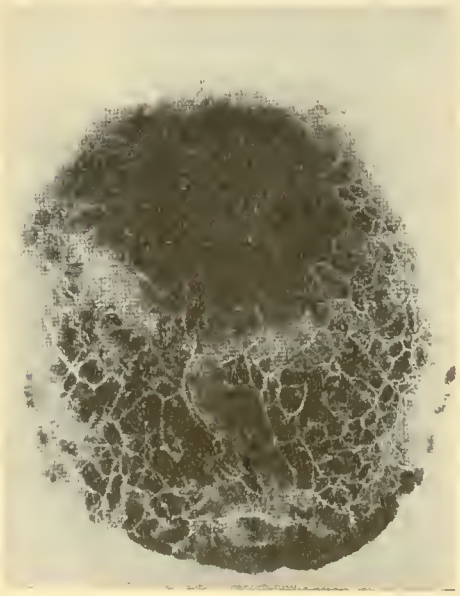
Now, if you take up a quantity of ripened pollen in a camel-hair brush from either the pollen or seed parent and dust it over the stigmas of the other, what are the chances of combination? If pollen No. 1 fertilises ova No. 3, clearly the offspring will be a pure tall; while if it fertilises ova No. 4, the offspring will just as obviously be a hybrid. On the other hand, if the pollen grain No. 2 carrying the pure dwarf-producing factor fertilises ova No. 4, the resulting offspring will be of a pure dwarf strain; while if it fertilises ova No. 3, a hybrid will be the result. The second generation, therefore, breaks up into three-fourths tall and one-fourth dwarf. But of the three talls one only is pure, the other two being hybrids. If we are dealing with a hybrid "medium," then the second generation will break up into 50 per cent. mediums, 25 per cent. talls and 25 per cent. dwarfs.

1.—APPLE TOWER OF GLAMIS SHOWING EXTERNAL APPEARANCE WHEN ATTACKED BY BITTER-PIT.

Influence of Crossing on Yield in Tomatoes.—To return now to the experiments with Tomatoes at the New York Agricultural Experimental Station, Mr. Wellington has found that a crop of hybrid plants of the *first generation* give a larger yield than either of the parental forms, or of the succeeding generations after the "break." The results suggest and seem to warrant the use of first-generation seed only if the main object be the production of a heavy crop. Of course, it entails all the extra care and trouble that artificial fertilisation means; but Tomato fruits, as a rule, produce a large number of seeds, which, so far, is some compensation against the extra trouble. Tomato seeds retain their vitality, it is said, for from three to seven years; therefore it would only be absolutely necessary for seed-growers to raise every third year a sufficient quantity to cover the needs of a three-year sale. It would appear to be a simple matter for raisers of Tomato seed to select pure strains of comparatively heavy croppers and reserve them for breeding purposes. Those not wanted for purposes of hybridisation could be kept pure by self-fertilisation, with the view of keeping up the stock of hybrid mothers. In this work it must be remembered that violent crosses—that is, using parents too widely different—produce not stronger but weaker offspring. Finally, it is known that a corrugated form is dominant to a smooth form, and that a dark red coloration is dominant to pink, and pink dominant to yellow. Size and shape are both inherited characters, and extremes, when mated, tend to produce medium hybrids. It is also said that earliness is slightly increased by crossing.

D. HOUSTON.

Royal College of Science for Ireland, Dublin.



2.—VASCULAR NETWORK OF APPLE WITH BITTER-PIT PATCHES ATTACHED. THE NETWORK IS INTERRUPTED WHERE THE BROWN PATCHES OCCUR

THE FRUIT GARDEN.

BITTER-PIT IN APPLES.

DURING the hot summer and autumn of 1911 there were numerous complaints from various parts of the country of the prevalence of bitter-pit in Apples. This was a rather mysterious disease that caused sunken, brown spots to appear under the skin of many Apples, particularly those with soft flesh, such as Warner's King. Although little had been heard of it in this country up to that time, it had been very prevalent in Australia, which, together with the fact that our summer of 1911 was exceptionally dry and resembled the Australian summers, gave rise to the supposition that drought was the indirect cause of the trouble, which also attacks Pears.

We have just received a voluminous but extremely interesting Report on the subject from Mr. D. McAlpine, Government Vegetable Pathologist to the Department of Agriculture for Victoria, Australia. Mr. McAlpine has been investigating bitter-pit in Apples for some years, and the volume we have before us is his First Progress Report. In our issue for December 2, 1911, we published an illustration of an Apple Tower of Glamis attacked by this disease, and we reproduce this again, so that those readers not familiar with it may get an idea of the external appearance of a fruit so attacked. Mr. McAlpine has come to the conclusion that bitter-pit arises from some derangement of the vascular system of the Apple; and as the matter is one of importance to fruit-growers in this and other countries, we publish his letter, together with the summary of the Report that he sends us and two illustrations from the very numerous and interesting collection that is to be found in its pages. Mr. McAlpine writes:

"I have much pleasure in forwarding you my First Progress Report on bitter-pit in Apples, and although somewhat voluminous, since it clears the ground for future action, you will be able to get an idea of the principal points from the table of contents and from the summary at page 109. One important point has been already established as the result of experiments, viz., that oversea shipments of clean fruit will be free from bitter-pit

3.—FIBRO-VASCULAR SYSTEM OF A PEAR, SPREAD OUT TO EXPOSE THE CORE.

on reaching its destination if kept at a constant and sufficiently low temperature, viz., 30° to 32° Fahr. The fruit was cooled down to 35° Fahr. and then kept at the above temperature without fluctuations. The scientific explanation of this fact is that at 1° or 2° Fahr. below the freezing point of water, the respiration of the Apple is suspended, and in this state of suspended animation or dormancy the development of bitter-pit is retarded. It would hardly be expected that anything fresh would be found out in such common objects as the Apple or Pear, and yet I have discovered a beautiful and delicate vascular net immediately beneath the skin, which has an important bearing on the origin of bitter-pit, and the purpose of which is to regulate and equalise the distribution of food material in the area where the greatest and most rapid growth necessarily takes place." (See illustration on page 68.)

The summary in the Report referred to is as follows:

"It is a fundamental principle of pathology that the normal structure and functions of the part or organ concerned should be determined as far as possible, in order that the abnormal conditions may be properly understood.

The structure and functions of the Apple and Pear were therefore investigated, with the result that, on the removal of the skin and flesh after softening, there remained a delicate skeleton and vessels as a model of the whole, ramifying through and permeating every portion of the fruit, supplying the seed-vessels and the flesh with liquid nourishment, and forming a network of vessels immediately beneath the skin. This vascular network was found to originate in the earliest stages of the fruit, and continues to expand with the enlarging flesh.

It is shown that neither insects nor fungi, bacteria, nor external agencies, such as spraying, are concerned in the production of bitter-pit. Bitter-pit is seen to be an internal disease, due to internal causes, and always found associated with the discoloured vascular bundles. 'Crinkle,' or 'pig face,' or 'hollow Apple' is shown to be a confluent form of bitter-pit, every gradation being observed from pit to slight and advanced crinkle. Large cavities are formed by the rupture of the tissue, owing to rapid and excessive growth at the periphery. Diseases found associated with bitter-pit were 'black spot,' 'bitter rot,' 'glassiness' or 'water core,' and 'mouldy core'

Appearances mistaken for bitter-pit were hail-marks, bruised skin, effects produced by chemical reagents and local poisoning. Pitted Apples are produced on unsprayed trees, and a chemical analysis of such Apples revealed no trace of mineral poisons.

It was found, as far as my investigations go, that the key to the solution of the bitter-pit problem lay in the wonderful vascular system which permeates the 'core' and the 'flesh,' and the marvellous network of vessels just beneath the skin, their function being to regulate and equalise the distribution of food material at the periphery of the fruit, where the greatest and most rapid growth normally takes place.

The brown spots of bitter-pit are generally first formed in the zone occupied by the vascular net, of which there is not only ocular demonstration in the position of the tough brown spots still adhering to the Apple in which the network is shown (Fig. 2), but in the figure of the Apple reproduced direct from the object itself. There is also a striking confirmation of this in the fact that the same place of origin of the brown spot has been noted by competent observers in Europe, America and Africa, even although the existence of the network was unknown to them. The earliest external appearance of bitter-pit was noticed when the fruit was about the size of a Walnut, but it generally occurs when the fruit is about half grown or approaching maturity. It generally occurs in the upper half of the fruit and towards the 'eye' end, and this is correlated with the openings in the skin being much more numerous in the upper than in the under portions. Chemical analysis shows that there is less water in the flesh of the upper portion. The larger number of openings will necessarily allow more active transpiration to go on at the 'eye' end than at the stalk end, and, owing to this extra transpiration, there is less water in the flesh at the top.

Bitter-pit may be associated with wet or dry seasons, so long as they are intermittent and fluctuating in their character at the critical period of growth. The principal contributing factors to bitter-pit are:

(1) Intermittent weather conditions when the fruit is at a critical period of growth.
(2) Amount and rapidity of transpiration.
(3) Sudden checking of the transpiration at night, when the roots are still active owing to the heat of the soil.
(4) Failure of supplies at the periphery of the fruit, followed by spasmodic and irregular recovery.
(5) Inequality of growth, so that the vascular network controlling the distribution of nutritive material is not regularly formed.
(6) Fluctuations of temperature when fruit is in store; and
(7) Nature of variety.

The weather cannot be controlled (except in so far as a smoke-blanket is allowed to drift over the orchard on frosty nights), but the soil and the tree and the fruit formed may be controlled to a large extent by cultivation, manuring, including green manuring, irrigation, the stocks used and the method of pruning. The relation of each of these factors to the development of bitter-pit is being determined by means of experiments. Young and vigorous trees making rapid growth may have pitted fruit, from the rapid transpiration and excessive growth interfering with the regular development of the vascular network. A light crop, with abnormally large fruit, is more liable to pit than a heavy crop of average-sized fruit equally distributed over the tree."

ROCK AND WATER GARDEN.

IRIS VARTANII.

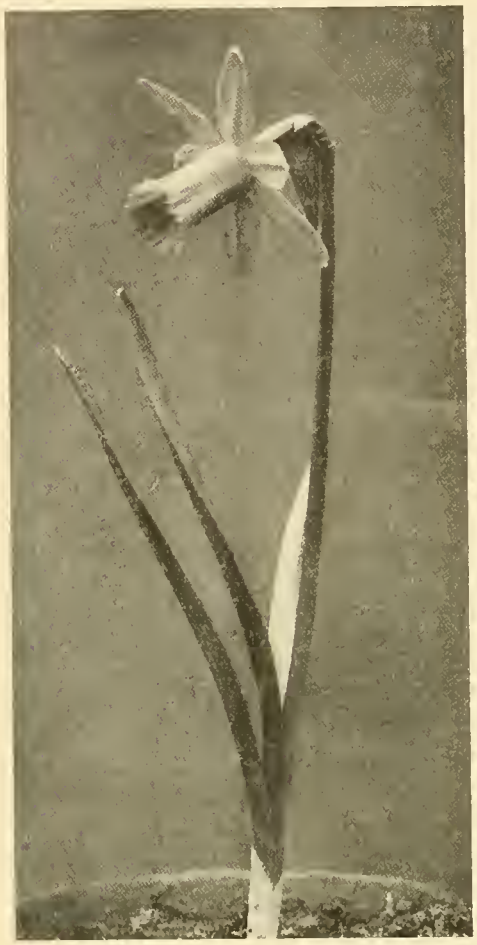
This winter-flowering Iris of the reticulata section is not nearly as widely known or grown as it deserves to be. Its flowering season is from October to January, and as an Iris for growing in pans to brighten the alpine-house in the dull winter days it has few equals. When grown outside, it should be given a favoured position under a wall or a sheltered niche in the rock garden, while it is one of those plants showing a decided preference for a light soil. The chief colour of the flowers is a slaty blue, the broad falls being almost white, copiously veined with a lavender hue and having a very pretty yellow crest. The erect standards are slaty blue. This Iris is a native of Palestine, and is named after Dr. Vartan of Nazareth.

A BEAUTIFUL IRIS (I. VARTANII) FOR THE ALPINE HOUSE.

A CICILIAN CROCUS.

(Crocus cilicicus lilacinus.)

A pretty late-flowering Crocus is that called C. cilicicus, which Maw in his "Monograph" refers to the species C. cancellatus. It is the



A NEW MINIATURE NARCISSUS, N. MINICYCLA. (*Natural size.*)

Cilician form of cancellatus, and it differs but slightly from the type. There are several varieties of this Cilician Crocus, generally of different shades of blue. The one named above is of a pale lilac, and looks very pleasing on rockwork in the late autumn and winter. This Crocus seems to open with but a moderate amount of sunshine. S. A.

LITHOSPERMUM GRAMINIFOLIUM.

SOME years ago I was ascending the very humble Mount Summano up to Sohio, near Vicenza in High Italy. The ground was then covered with rare Orchids. It was just the best time for them (June), and I gathered there many charming species in the world of Serapias, Ophrys and Orchis. Suddenly before my eyes arose the most exquisite sight I ever saw. Like in a dream, in a heavenly dream, I saw a blue picture, fringed with pink, formed by a mass of deep azure flowers. "What is this?" I said to the Italian friend who was at my side. "I do not know," he answered, so I hastened and hastened till I was at the slope which was so adorned with the blue, and saw it was the exquisite Lithospermum graminifolium, a gem I cultivated for years, but which I had not yet found wild. This made such an impression upon my mind that I shall never forget it. Imagine thousands of millions of such long and thin deep azure flowers, all close to each other, all together pressed on the tuft of grass-like foliage, so dense that no place was free for the foliage. And imagine, still, here and there, some tufts of that beautiful pink Linum viscosum growing together with them, and dark brown Serapias longipetala and bright yellow Coronillas, all these together under the brilliant sun of Italy. You will have an idea of the charming apparition. And then, in the shady and grassy places, fields of the marvellous cardinal red Lilium carniolicum, framed by the deep pink Epimedium alpinum, the rocks being covered with Phyteuma humile and P. comosum, with the deep blue Paederota and the delicate Saxifraga cæsia, every kind of colour and tint, and all in masses in myriads, every rock coloured and adorned, and you will have a little idea of my emotion.

Lithospermum graminifolium is, in my opinion, far better than the Pyrenean L. prostratum. The elegance of the flower and the beautiful pure, deep azure of the long, tubular corolla are unsurpassable; but the best of it is that it is the easiest to grow. We have in the wall of Floraire two tufts of it measuring 2 feet to 3 feet in diameter, which are indescribable in beauty and vigour. They were singly planted between the stones of the wall in a very sunny place. The plant likes sun, of course, and does not stand well in the misty and damp climates.

Another very good Lithospermum is rosmarinifolium, from the Abruzzis in South Italy. It flowers in early spring, and again in late autumn, and has deep blue flowers. But it is not quite hardy with us. L. fruticosum, from the South of France, is a hardy kind, and forms little bushes of 2 feet to 3 feet, with deep blue flowers. L. prostratum is not good here, as we have too much chalk in the ground and in the water. Two creeping sorts of the Pyrenees, L. olæfolium and L. Gastonis, are easy growers, the first having pink and blue flowers and silver whitish leaves, and the other is a low herbaceous kind, with deep, big flowers. The first likes the rockery and a sunny place between the stones; the second, a peaty soil, half shady.

H. CORREVON.

Floraire, near Geneva.

FLOWER GARDEN.

A MINIATURE HYBRID NARCISSUS.

(NARCISSUS MINICYCLA.)

THIS interesting little hybrid, reproduced life-size on this page, was raised by crossing Narcissus minimus with N. cyclamineus. The hybrid, raised from seed sown in 1908, is almost intermediate between the two parents, and a detailed description of it appeared in last week's issue on page 60 under "New and Rare Plants." An award of merit was granted to this novelty by the Royal Horticultural Society on January 21, and this, we believe, is the earliest date on which a Narcissus has ever gained an award. The hybrid was raised by Mr. F. Herbert Chapman of Rye, and we understand that it has now passed into the hands of Messrs. Barr and Sons, through whom it will be distributed.

LILIES: A CAUSERIE.

(*Continued from page 47.*)

THE many forms of L. Martagon are not made as much of as they deserve. Though they prefer a sunny, open border, there are few corners in a garden where they will not settle down and make themselves at home, whether it be in semi-wild grass or in thin shade under trees. The common pink type is the dullest of the forms, but even that varies greatly, and some pretty pearly pink forms, as well as deeper ones, may be selected. I should like to be in the hay meadows around Modane when the Martagons are ablow. I have only seen their fat buds just appearing in pendent bunches, but from the variety of colours they wore at that early stage, shading from yellowish green to nearly black, and from the variation in the amount of white down that covered some and the shining, glabrous surface of others, they promised a rich array of varieties. I did, however, secure one treasure from that neighbourhood. While scrambling on the rocky southern hillside behind a little frontier town, searching for butterflies chiefly, I espied in a garden a group of Martagons with curiously pale golden leaves. A closer inspection through the gaps of the fence showed it was not diseased, but a distinctly golden-leaved form. It appeared to be growing in the garden of the Douane, and, as I was not very certain then as to the attitude the officials took to the collecting and posting of plants, I was daunted, and waited to ask mine host of the inn if he could get me a bulb in autumn. This he promised to do, the Chef de Douane being his very good friend. However, no bulb came, so on my next visit I plucked up all my courage, my best manners, and what I call my French. Anything in his garden was at my

RUSTIC POLES ARRANGED IN A BED AS SUPPORTS FOR RAMBLER ROSES. SEE THE EFFECT ON THE NEXT PAGE.

disposal, but, arrived within view of my golden treasure, alas! it was not on his property. That little stone marked the boundary, and beyond it was the garden of the Barracks! I despaired; my companion said "Courage." He would conduct me to a sous-officer who directed the horticulture, and so, after much more bowing and hat-raising than I had ever achieved before in so short a space of time, the bemedalled martial director of horticulture sent for a pleasant old blue-bloused gardener with a huge spade that looked as if it had been cut out of a giant's pack of cards. The Lilies were attacked, and I acquired three and their history. That related how one plant was found on the mountains and, brought to the garden many years ago, had increased to form this glowing patch. Of course, it was not very good for them to be lifted just at flowering-time and sent off on the long journey to England, but I have hopes they will recover it and be as beautiful here as they appeared to be on Mont Cenis. The beauties of the Martagon family are album, the pure white, and the deep claret L. dalmaticum. The former of these is a very old garden plant, and was praised by Parkinson as "being altogether of a fine white colour, without any spots, or but few, and that but sometimes also."

Then, as now, a form existed with flowers of a poorer quality of white, and speckled with dull purple towards the centre. Being so easily raised from seed, it is always likely that inferior forms will be found in any large stock of it; so in buying white Martagons it is best to make as sure as possible of getting those of the fine white colour. Parkinson also writes of the Blush Martagon, "whose flowers are wholly of a delayed flesh colour with many spots on the flowers." This I believe I have, and it is a very charming plant. I got it from an old garden near here that was deserted and had gone wild.

The deep purple dalmaticum is a noble Lily, but all too seldom seen. I know a garden in which a bulb of it throws up annually a 5-foot stem, bearing a great number of deep claret crimson flowers, just on the edge of a shrubbery bordering a lawn, where it looks as though it had been undisturbed for many years. I know nothing of quite the same deep colouring at its season of flowering, and it gives a fine note of colour, especially when the sunlight shines through it. Here I find it takes some years to get established and flower well. From this and L. Hansonii the handsome hybrid L. Dalhansonii was raised. The blending of orange with the purple has produced a curious deep chocolate-coloured Lily more or less spotted with orange. It is not so fine a thing as L. dalmaticum, perhaps, but seems to possess a good constitution, and I grow a group of it in front of the Ceanothus mentioned previously, and like the effect of their contrasted colourings. Another wedding in the same family—that of Miss Blanche Martagon and Mr. Hansonii—has given us the various hybrids called Marhan, fine effective young people of various buff and orange shades and more or less speckled. The one known as Miss Willmott is, I think, the best. I find they require a mulch and watering in dry weather just before coming into flower, otherwise they flag on hot days and the lower whorls of leaves do not recover, but die off and spoil the general effect. The parent L. Hansonii is a grand acquisition for a partially-shaded spot. It appears to be very easily satisfied as to soil, provided it is deeply planted and gets a fair share of moisture in the growing season, and its clear orange shade is wonderfully effective among Ferns and other plants with a taste for semi-shade. It is often called the Japanese Martagon, but is not of true Martagon shape, as the segments of the flower do not curve inward in the same way to form the Turk's-cap—the martagan—the form of turban worn by Sultan Mohammed I., from which the name is derived. I hope the forthcoming supplement to Elwes' "Lilies," of which little birds already sing in horticultural inner circles, will make clear and plain for us the at present confused identity or distinction of L. avenaceum and L. medeoloides. Mr. Grove already tells us in his little foretaste book that the figure of L. avenaceum in the Monograph must be taken to be L. medeoloides; best of all, that this little gem can be grown well in lime-free leaf-mould in slight shade. It was, I suppose, this Lily that was confused with L. Hansonii when that golden beauty made its *début* in English gardens.

Waltham Cross. E. A. BOWLES.

(To be continued.)

THE ROSE GARDEN.

GROWING ROSES OVER RUSTIC POLES.

ONE of the most effective ways of growing rambling Roses is to train them over rustic poles. Nothing could be easier; the idea is simplicity itself, and is excellent for both large and small gardens. A glance at the two accompanying illustrations will readily explain the principle. In the first of them we see large rustic poles arranged more or less in the manner of a tripod, being wired together at the top. At the base it will be observed are planted rambling Roses, and these, with an occasional tie, are being trained to clothe the rustic poles. In the second illustration we see a rambling Rose in its full glory, with scarcely a trace of the rusticwork visible. Surely a rambler could not be shown to greater advantage than this.

ROSE ELISE ROBICHON GROWING OVER RUSTIC POLES SIMILAR TO THOSE SHOWN IN THE ILLUSTRATION ON THE OPPOSITE PAGE. PLANTING MAY STILL BE DONE.

In this method of culture there are two salient points to bear in mind. In the first place, it should not be overlooked that rambling Roses, above all others, respond to deep cultivation, an important matter if it is hoped that they will attain a good height. Secondly, the poles must be made secure and well fixed in the ground; they must be perfectly rigid before planting. Roses may still be planted, but owing to the mildness of the season

and the subsequent forwardness of plant-life, we advise readers not to delay planting longer than can reasonably be helped. Any of the rambling Roses may be grown in the manner described. The wichuraianas are especially suitable, such, for instance, as Dorothy Perkins and Jersey Beauty, and the same may be said of Dundee Rambler and Longworth Rambler, to mention only a few among a multitude of others. The second illustration is that of the variety Elise Robichon, one of the best of the wichuraianas for this purpose.

SOME OF THE NEWER HYBRID TEA ROSES.

(*Continued from page* 59.)

Mabel Drew (Alex. Dickson and Sons, 1911).—This, an excellent exhibition variety, will fill a decided want as a good cream-coloured bedding Rose also. I have always considered, taking it all round, that Mrs. David M'Kee was the best Rose of its colour for this purpose and a Rose that was not half enough appreciated; but now Mabel Drew will displace Mrs. David M'Kee, having rather more colour in its flowers and being a more continuous flowerer. Mrs. David M'Kee had, it is true, three distinct periods of flower; but Mabel Drew promises to beat that, being practically in flower from June till November. Its flowers are large, of good shape, sweet scented, and held erect above good foliage that appears to be almost mildew-proof.

Mme. Segond-Weber (Soupert et Notting, 1908).—This is a beautiful Rose of a good clear salmony pink in colour, free-flowering, a good grower of nice habit, producing a beautiful long bud that makes an excellent button-hole. A great favourite with me. It has a delicious perfume, and as a bedder can be strongly recommended as being the best Rose of its colour, easy to grow and with no bad fault.

Margaret Molyneux (Alex. Dickson and Sons, 1909).—This is not a Rose that will appeal to everyone; it has too few petals, being only semi-double, but at its best it is a Rose of exquisite colouring. It produces its flowers freely in trusses of three to five blooms. These should be cut quite young and allowed to expand in water. The colour varies from pale saffron yellow, shaded apricot and peach, but fades to crimson in the sun. A great favourite for table decoration.

Melody (Alex. Dickson and Sons, 1911).—This is a Rose that seems to have caught on in America grown under glass; outdoors with me in Hampshire it was quite satisfactory. The flowers are not large, but very beautiful in shape and colour, and are freely produced on good long shoots. It will prove one of our best bedding yellows, I think. It has the further advantage of being mildew-proof, and is deliciously scented.

Miss Cynthia Forde (Hugh Dickson, 1909).—I referred to this Rose under exhibition varieties, but it will take a very high place as a bedding Rose, and although there are many pinks, I am inclined to say this is the best of them all, and is to be preferred even to Caroline Testout or Lady Ashtown. It is a gold medal Rose of much merit.

Mrs. Alfred Tate (S. McGredy and Son, 1909).—This is one of the most beautiful Roses for table decoration that we have, and now that it is down to normal prices should find a place in every garden where such Roses are wanted. It also makes an excellent button-hole in the bud stage. It has not many petals, but it keeps its shape well, and its colour is best described as coppery shaded fawn. I do not think it was ever staged for the National Rose Society's gold medal, but it has received the Royal Horticultural Society's award of merit and was awarded a gold medal at the Bagatelle Trials at Paris in 1910.

Mrs. Amy Hammond (S. McGredy and Son, 1911).—See page 589, November 23, 1912, "Exhibition Varieties." A Rose to be obtained at the earliest opportunity.

Mrs. Arthur R. Waddell (Pernet-Ducher, 1908).—Really outside the date (1909–12), but I think I ought to make a passing reference to the fine colouring of this Rose. Of neat habit, not very vigorous, it is a pretty bedding Rose; colour, deep salmon rose on copper. An excellent long-pointed bud, very useful for house decoration.

Mrs. Frank Workman (Hugh Dickson, 1911).—This is a good grower and a fine decorative Rose of good habit, flowers held erect; colour, a clear deep rose pink. Very free-flowering as seen at Belmont. It received a card of commendation at Salisbury in 1910.

Mrs. Fred Straker (Alex. Dickson and Sons, 1910).—Another very beautiful button-hole Rose, with that delightful spiral twist to the petals that gives such a look of perfect finish to the flower. Not large, but of excellent shape, very sweetly scented; a colour that varies from orange in the bud to silvery fawn in the older flower. A good, erect grower and a "fascinating" Rose for table decoration.

Mrs. Richard Draper (Hugh Dickson, 1912).—See page 611, December 7, 1912, "Exhibition Varieties."

Mrs. Wakefield Christie Miller (S. McGredy and Son, 1910).—A great Pæony-like flower of bicolor tints, soft blush pink on the inside of the petal, with deep rose on the outside. A bed makes a great splash of colour, but there is not much shape about the individual flower. A robust rather than a vigorous grower, so the plants are best planted thickly. A good decorative variety for the garden.

Mrs. Walter Easlea (Alex. Dickson and Sons, 1910).—A flower not unlike Richmond and Liberty, but holding its flowers more erect than the latter variety. It is free-flowering, but I cannot say that I have found it a great advance on Richmond.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Sowing Onions.—It is now regarded as necessary for every amateur and cottager to endeavour to grow monster Onions, and though they do not often succeed in producing anything beyond a modest three-pounder, failure will assuredly not come for want of strenuous efforts. It is imperative to secure a particularly fine strain of seed; but this is not difficult from the advertisers in THE GARDEN, and a fair price must be paid for it. For sowing, choose boxes about ten inches deep and fill them to within an inch of the top firmly with a mixture of loam and manure, adding sharp sand or grit at discretion. On the level surface set the seeds so far asunder that transplantation to other boxes or a specially-prepared bed in a frame will not be required, as labour will be saved in this manner. Stand the box in a greenhouse or heated frame, and, immediately the seedlings appear, put it in a position close to the roof glass to prevent the slightest chance of drawing. From the time they are 2 inches high a cold frame is the best place, but it is absolutely essential to success that the plants shall not cease steady advance, as they never fully recover from a check, even though the cessation be for only six hours.

Horse-Radish.—It is a cause of some wonder why Horse-radish, which is so highly appreciated by many people, is so frequently a nuisance in gardens. Of course, the reason is that the plant is treated as unworthy of attention, and it quickly becomes a pestilential weed. If it were grown on ridges, a supply would always be readily at command, which is far from being the case in the generation-old bed, and the grower would feel himself in complete control of the situation. The process is simple. Cut a trench 3 inches deep and 14 inches wide, and fill it firmly with good manure. Then build up a ridge 10 inches high and 5 inches wide at the top, and insert slantingly along each side, at distances of 8 inches, whips 4 inches long and about as thick as a pencil. In the late summer and autumn there will be plenty of excellent produce to dig, and a fresh ridge can be made each season, the length varying, of course, with the demand.

Seed Potatoes.—It is most important that the tubers which are under process of sprouting prior to planting shall be kept quite cool now, or the shoots will be weak. Provide them with as much light as possible, and see that they have plenty of fresh air. If the trays are in a room with light coming from one side only, turn them daily, and if they are stacked to economise space, bring the sets from the middle to the sides at least once a week. Bear in mind that frost must be excluded from the place, or disaster is inevitable.

Early Peas.—Those who can afford the space in a frame or greenhouse should sow a few seeds of a fast-podding, dwarf, marrowfat Pea at once in boxes. A little trouble is entailed, but with proper care the results are so excellent that the return is profitable. The boxes may be 6 inches wide, 4 inches deep and of any length that may be convenient. Make provision for drainage, fill with light soil and sow the seeds thinly. To encourage germination there should be gentle heat; but, as soon as it is safe to do so after the seedlings show through, put the box in a cold frame to favour hardy progress until the plants can be put out in April. If a sowing is made out of doors of the same variety on a warm border, the plants from seeds sown under glass will yield pickings from fourteen to twenty days earlier. This last-mentioned sowing must be done before the end of the month in any case if it is within the bounds of possibility.

Longpod Beans.—It is also necessary to make a sowing of a good variety of Longpod Beans as soon as the state of the weather and the soil will permit. The plants are usually grown in double lines, and the drill, or shallow trench, for the seeds ought to be not less than 12 inches wide, the seeds being set 3 inches asunder 1 inch from the sides. When the seedlings are big enough to prove which are the best, thin them out to 6 inches. The soil covering above the seeds may be 2 inches or 3 inches deep. H. J.

GARDENING FOR BEGINNERS.

LILIUMS IN UNDRAINED PANS OF MOSS FIBRE.

THE accompanying illustration shows the good results which attended my first experiment at growing Liliums in vases of carbonated fibre without drainage, a method of culture to be recommended, provided (as is necessary with all the spring-flowering bulbs) that care is taken to avoid overwatering. The following were tried: L. longiflorum, L. giganteum speciosum, L. Melpomene, L. Krætzeri, L. tigrinum Fortunei and L. auratum, all of which flowered most satisfactorily. Further proof of this treatment suiting the Liliums was the extreme freedom with which the bulbs had rooted, so much so that, after flowering and the stems being cut down, it was difficult to remove the old bulbs intact. Probably if they had been left undisturbed and kept moderately dry until early spring, the speciosums would have again flowered well the next season.

Now is a good time to plant for this purpose, using a vase 7 inches or 8 inches in diameter; and since Liliums always emit roots from the stems as well as from the base of the bulb, they should be placed so that their tops are covered with the moss fibre at least 2 inches. Press the fibre moderately firmly, and if at all dry, moisten well. Stand either in a light or dark but cool place, bearing in mind that as the moss fibre retains moisture much longer than ordinary potting compost (especially so when undrained), no further watering will be required for several weeks. The variety shown in the illustration, L. tigrinum Fortunei (Giant Japanese Tiger Lily), is to be highly recommended, always succeeding either under glass or outdoors, where it thrives equally well in sun or partial shade, being especially effective when planted about two feet apart in groups. L. tigrinum Fortunei is considerably more handsome and vigorous than the old form of L. tigrinum, the growths, of which two or more are usually produced, attaining an average height of 5 feet. The moss fibre suiting all the above varieties of Liliums so well, I propose this season also trying it mixed with the same quantity of ordinary compost for pot culture; while, when planting Liliums in the open ground, it is quite anticipated that 2 inches or 3 inches of this material placed both below and over the bulbs would suit most varieties admirably. V.

A GIANT TIGER LILY, LILIUM TIGRINUM FORTUNEI, GROWN IN AN UNDRAINED BOWL OF FIBRE.

HOW TO GROW BALSAMS.

When well grown, a batch of Balsam plants makes a brilliant display in the greenhouse or conservatory, and are strong rivals to the tuberous Begonias. The Balsam was very extensively grown twenty years ago; then there seemed to be a falling off in the general appreciation; but of late it has again found much favour, as the plants have been proved to be useful in dry borders as well as in the greenhouse. It is a half-hardy annual, easily raised from seeds, and so there is no necessity for the wintering of stock. Although the plants will do so well in the open air in summer, they require a good heat in their young stages of growth. They must be grown quickly, but, of course, not unduly forced. A day temperature of 65° and one of 58° at night answer the purpose admirably in March. Sow the seeds now in a light, sandy compost, fibrous loam and sweet leaf-soil in equal proportions serving the purpose well. Pots or pans may be used, and the drainage must be ample. Sow the seeds an inch apart and bury them a quarter of an inch deep. Keep the soil moderately moist and the seed-pots in a warm position; if not on the top of a hot-bed in a frame, then in a warm place on the stage in the greenhouse.

The stems of both seedlings and flowering plants are succulent, and consequently a constantly saturated condition of the soil is undesirable. Transplant the seedlings early, using a similar compost to that recommended for the raising of the seedlings, and do not make it firm; let it remain rather loose in the pans, as the water applied will firm it sufficiently. Rapid growth then results. The young plants must be repotted directly they require it, so as to induce a branching habit. Use well-rotted manure in the compost after the first pricking out of the seedlings. When buds form, feed judiciously and admit more air. The leaves form a beautiful setting to the Camellia-like flowers. Shamrock.

HOW TO POT TUBEROSES.

The Tuberose, when properly treated, grows and flowers freely, but many tubers are spoiled during their early stages of growth through wrong treatment. Frequently one sees plants very tall, weakly of stem and badly flowered, many individual flower-buds not developing as they ought to. Some cultivators place the tubers in small pots, and then repot the growing plants in due time; others put them in the flowering pots at once. I favour potting in 3½-inch pots, and then repotting when the pots are getting well filled with roots. Nearly every tuber possesses several "eyes" or buds on the sides. These must all be carefully picked out with the aid of a knife before the tubers are potted. If this is not done, the young side shoots grow through the soil in the pots and their removal is a difficult matter. These young shoots are valueless as regards the bearing of flowers, and if left on greatly weaken the main stem which does bear flowers.

A suitable compost is one formed of fibrous loam, two parts; leaf-soil, one part; and well-rotted manure, one part, with plenty of sand added. When the tubers are potted, some sand should be placed under and around each one. Press down the soil firmly with the fingers, and leave one-third of the tuber exposed above the soil in the pot. If the compost is moderately moist, it will be in good condition. Do not water until some roots are forming and new growth has started. If the pots can be placed on a warm base, new growth will soon commence. The temperature should range about 60° until the new stems are nearly a foot high; then more air must be admitted. Avon.

HOW TO PREPARE SOIL IN A ROSE-BED.

Very often the inexperienced cultivator can, in imagination, see his trees growing in the bed before he plants them. He then procures the trees and plants them in dug-out holes, and the following year the growth is not very satisfactory. Before any planting is done the soil should be trenched at least 2 feet deep all over the bed, and if it is very poor a quantity of rotted manure may be mixed with the soil 6 inches below the surface. When the trees are planted, if they are standards they must be held securely in position by short stakes and a thin mulch of litter put on. Heavy winter dressings of cold, wet manure do more harm than good to newly-planted Roses. B.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Seeds of Bedding Plants to be sown at once include Centaureas, Cineraria maritima, Antirrhinums, fibrous and tuberous rooted Begonias, Chamæpeuce, Wigandia, Pentstemons and Cyperus natalensis.

Fuchsias are among the finest of all subjects for summer bedding, and young plants rooted in the autumn and potted off singly should now be ready for another shift forward, this time into 4½-inch pots. By this means really good specimens 4 feet high may be had by early June.

Plants Under Glass.

Gloxinias.—Some of the older tubers should now be shaken out from the old soil, and these, if placed in shallow boxes and partially covered with very light soil, will soon begin to make growth in a warm house. As soon as sufficiently well rooted, they should be potted direct into their flowering pots.

Begonias.—Where early plants of these are desired, they may be treated as above, but they should not be started in quite so much heat as Gloxinias, an intermediate temperature being more in keeping with their requirements.

Caladium Argyrites and other small-foliaged varieties may also be started in boxes, potting off as soon as the young growths get an inch or so high. Quite small bulbs make the best plants eventually, if care is taken to give a slight pot on when necessary.

Seed-Sowing.—Various seeds should now be sown, including Begonias, Gloxinias, Streptocarpus, Medeola, Grevilleas, Dracæna australis and Asparagus plumosa and A. Sprengeri. Needless to say, great care is necessary in the sowing and attention to the smaller seeds, and these should be covered with glass in the propagating-frame till the seedlings appear above the surface.

Propagation by Cuttings.—Various occupants of the stove root readily at this season, and cuttings of Crotons, Dracænas, Panax, Pandanus, Panicum, Acalyphas and Dieffenbachias should be got in as space in the propagating-frame permits. A quick-rooting compost of peat, leaf-soil and silver sand should be used for the above subjects, placing the cuttings in small pots with a fairly warm bottom-heat. Most of them should be ready for removal in from fourteen to twenty-one days.

The Rose Garden.

Manure-Water.—During mild weather liquid manure from the farmyard tank may with advantage be given to the Rose-beds. At this season the ground will take it much more readily than during the summer, and if the tank is emptied after rain, there is not much danger of the liquid manure being too strong. It may seem superfluous to apply liquid at this season of the year, but it is certainly making good use of manure which would probably be wasted.

Freshly-Planted Trees.—Look well after these, treading the soil well about them after frost. Teas and others that may have been protected by having the soil drawn up to them should be looked over occasionally, the unusually mild fore part of the winter having kept them in a very soft condition, and I have noticed that it is the later frosts which do the most damage.

The Kitchen Garden.

Ground Work.—Press on with this as long as the weather keeps open, reserving such work as preparing stakes and burning rubbish till frost drives one off the ground.

Preparing Composts for Frames.—This is another of the jobs that can be done during wet or even hard weather, providing a good open shed is available. Old hot-bed material, Mushroom manure, well-decayed leaves, wood-ashes and a fair proportion of loam will make a good compost for growing Carrots, Lettuce, Turnips, Beans and Potatoes in frames, keeping it under cover, if possible, till it is required.

Spring Cabbage.—Fill up any blanks during favourable weather and give the bed a good hoeing occasionally, the loose surface allowing the soil to get the full benefit of whatever sun there is. The same remark applies to any other growing crops, such as autumn-sown Onions and Spinach.

Fruits Under Glass.

Vine Borders.—By this time some of the earlier-started houses with inside borders may be requiring water, and though they must not be allowed to continue dry, care should be taken to apply water only when the outside conditions are favourable. Although I do not think that water straight from the tap later on in the season is at all detrimental, it is safer at this season to apply only water that has been standing in the house some time, or by some other means has been raised to a temperature of from 55° to 60°, this, of course, only applying to houses containing Vines forward in growth. Vines in houses that are being shut up will not be hurt by using cold water.

Disbudding Peaches and Nectarines.—The earliest trees will probably be pushing into good growth rather quickly now, and as soon as the shoots are forward enough to handle, disbudding must commence. Nearly every grower will have his own system of disbudding, but I would point out that to keep the trees well furnished it is quite necessary to encourage young growths as far back on the old wood as possible.

Pot Trees.—Very little disbudding is necessary with pot trees, but to keep them as small as possible the shoots on last year's growths may be rubbed off down to where the fruit is nicely set, and some of these may even be taken off the extremities of the shoots, thereby diminishing the size of the tree, the remaining shoots being stopped as necessary to build the tree and to concentrate its energy into the fruit.

The Hardy Fruit Garden.

Gooseberries.—These are breaking into growth uncommonly early, and pruning should be undertaken at once. Nothing is gained by having the trees too thick, a well-trimmed tree generally carrying a good crop and being much easier to gather the fruit from. In nearly all instances, Gooseberries have to be protected from the birds, and where they are not enclosed in a wire cage, the trees, after pruning, should be sprayed with a fairly strong solution of soft soap, immediately afterwards giving them a good dusting all over with quite freshly-slaked quicklime. I have never known this to fail to keep the birds from taking the buds.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Antirrhinums.—These popular flowers now play an important part in our gardens, whether large or small. They have much to recommend them, being inexpensive, easy of cultivation, highly floriferous, having a long flowering period, and furnishing a great variety of colour. They should be sown within the next ten days in boxes in moderate heat, and pricked off about two inches apart as soon as the first pair of rough leaves are formed. They can be had tall, medium and dwarf. The mediums are the most useful, and the following can be recommended: Carmine Pink, Bright Pink, Delicate Pink, Apricot, Orange King, Fire King and Brilliance; also crimson, yellow and white selfs.

Propagation by Cuttings.—The propagation of bedding plants by cuttings should now proceed apace. These will include Geraniums, Paris Daisies, Ageratums, Heliotropes, Lobelias and Salvias. Geraniums must, of course, have abundance of air, but all the foregoing will root readily whenever they can have the benefit of a brisk temperature with plenty of moisture and a close atmosphere.

Jasminum nudiflorum.—This attractive winter-flowering wall plant will now be out of bloom, and should be pruned forthwith. Cut away a number of the old shoots to make room for the young growth, as it is on this that the next winter's crop of bloom will be borne.

Polygonum baldschuanicum.—This native of Western Asia is one of our most accommodating plants, being equally at home on a wall, a pergola, or the front railing of a villa. If not already done, it should be pruned now, but not too closely; say, to within 6 inches or 8 inches of the framework of the plant. The plant yields two crops annually of its graceful panicles of pale pink flowers.

The Rose Garden.

Late Planting.—Where from some unavoidable cause planting must be delayed beyond the normal period, the plants should be lifted now and heeled in behind a north wall or hedge to retard growth, so that the plants shall not be unduly checked when planted in their permanent quarters.

Stocks for Standards.—Those who propose to work stocks for standards or half-standards should search the hedgerows for suitable material and have them planted and staked in the reserve garden.

Plants Under Glass.

Slugs, like the poor, are ever with us. They are very partial to the blooms of Dendrobiums and Cœlogynes. At night, by the aid of a lamp, is the time to catch them red-handed.

Zonal Pelargoniums.—Those that flowered during the autumn and early winter, if cut back now and rested for a few weeks, will make a brave show during the summer. Prior to cutting them back, the points of the shoots should be utilised for cuttings for next winter's supply.

Fruits Under Glass.

Ventilation.—This should receive very careful attention, for three good reasons: First, shade and sunshine alternate very rapidly at this season; secondly, there is great disparity between the external and internal temperatures; and, thirdly, whenever growth is active it is succulent and tender, and therefore highly susceptible to sudden fluctuations of temperature. Admit air gradually, at the top first, and never at the top and front or sides at the same time. Very little front or side air will be required for some weeks yet.

Melons.—When the first batch has made 3 inches of growth, the pots should receive a top-dressing, care being taken that the soil has been warmed to the temperature of the Melon-house before being applied. A successional sowing should now be made.

Peaches.—Where these have just set their fruit, they should be vigorously syringed to remove all decaying flowers and cleanse the foliage. A rather higher temperature may now be maintained.

The Hardy Fruit Garden.

American Gooseberry Mildew.—Although I have had no personal experience of this virulent disease, I would remind readers that the Board of Agriculture recommend that whenever there is any suspicion of the presence of the disease, the bushes should be sprayed with Bordeaux mixture about a fortnight before the buds begin to open, and, should rain occur soon after the operation, it should be repeated.

Strawberries.—Where late runners were taken and planted in nursery lines, they should be planted in their permanent quarters as soon as possible. The rows should be from 2 feet to 2½ feet apart, and the plants 12 inches to 15 inches apart in the row, according to the vigour of the variety.

The Vegetable Garden.

Broad Beans.—A sowing of these should now be made on a south border, and for this sowing Early Mazagan is the best. It will be advisable to coat the seeds with red lead, and a little wood-ash should be scattered along the drills; 2 inches is deep enough to plant.

Rhubarb.—Where young plantations are to be made, the work should be carried out as soon as convenient. The ground should be trenched and well enriched, as Rhubarb is a gross feeder and is being continually robbed during the growing season. Daw's Champion and Victoria are two excellent varieties.

Mint.—The Mint-bed should receive a top-dressing of some light, rich compost for the young roots to feed on.

Lime.—Although not a fertiliser, lime is valuable as a liberator, and most garden soils, if at all heavy, are benefited by light dressings of it. Some ground lime should therefore be ready for the approaching spring weather.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

A NATIONAL DAFFODIL SOCIETY.

THE letters of Captain Kitchin and Mr. Carne Ross, which have recently appeared in THE GARDEN, seem to point to a feeling which I entirely reciprocate, viz., that the time has come when steps should be taken to see if a National Daffodil Society could not be formed. My reasons are as follow:

1. As Mr. Carne Ross says, the Daffodil is to-day too important a flower in the economy of the garden to be run as a side-show, even of such an august society as the Royal Horticultural Society. I put it a little differently and say it does not seem to me that we are giving it the honour to which its merits and commanding position entitle it, when we do anything less than put it upon the same level as the Tulip, Rose, Carnation, Auricula, Chrysanthemum, Sweet Pea and Gladiolus, which are all enjoying at the present moment the dignity of a "National." This sentimental reason is with me a very strong one, and if others feel it in anything like the way I do, it will not be long before it is a *fait accompli. Carthago est delendum.* A National Daffodil Society must be formed.

2. This feeling of mine would not be in the least altered if I had found after nearly two years' trial that the Royal Horticultural Society had done all that was expected of it in regard to the Daffodil. In my humble opinion it has been tried and has been found wanting. I write this in no fault-finding spirit. I state it as what appears to me to be a self-evident fact. The Royal Horticultural Society lets its hall to the cats and the cooks, and they do not, I suppose, expect it to run their shows for them; why should the poor Daffodil? It is not the function of such a society to "run" one flower more than another. I look upon it as the mother of all flowers, fruits and vegetables, and I do not think it should have a favourite child. Years ago, when valentines were in fashion, I received one from a dear old aunt of a hen surrounded by chicks, with the inscription, "I long to take you under my wing." I think this would not be a bad crest and motto for our great society. It so exactly hits off its function as nurse and protector, even to the ugly duckling, if the necessity should arise.

3. I give a concrete example of what I mean by its not being the function of the Royal Horticultural Society to run the Daffodil. As readers know, a Daffodil show was held in 1912, and I presume another is to take place in 1913; but up to the present (January 27) I have had no schedule sent to me, nor can I hear of anyone who has. Some little time since I hinted to one of the powers that be that if there were any schedules they should be sent round at once, as we ought to have had them *last July*. The reply I got was something as follows: "Send them round! Who to? Let people apply if they want them." Yes, who to? All Daffodil-lovers! How can the Royal Horticultural Society know them even if it wanted to send them all a schedule? Then take the second part of the reply, "Let people apply if they want them." How are people to know that there is to be a show in 1913? How are people to know that they may or must apply if they want a schedule, or they will get none? For the Royal Horticultural Society to expect this (and I presume from its action in this matter it does do so) is to expect the cart to pull the horse.

4. By retaining the Barr Cup in its own hands the committee of the same looked forward to a time when a national society would come into being. As a member of that body I think I may say that should such an event take place, it would then hand over the cup to the national society. This is one reason, but only a small one, for taking the step I am advocating. More weighty ones are the necessity for legislation, for guidance, for information, for fostering care, and last, but far from least, for leadership. These things are wanted in the Daffodil world. There is a void in the life of the Daffodil fancier which legitimately calls upon someone or something to fill it. But there is no one to hear.

5. I venture to suggest a meeting of Daffodil people to talk all this over on the morning of the second day of the Spring Bulb Show—that is, on Wednesday, March 5. *Carthago est delendum.*

JOSEPH JACOB.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

WIRE FOR SWEET PEAS (*Nubian*).—You should unhesitatingly give the preference to Simplicitas galvanised iron wire for your Sweet Pea supports, choosing that of the finest procurable quality. Yes; horse-manure from animals bedded in sawdust may be advantageously used.

INJURY TO ANTIRRHINUMS (*N. W.*).—We think the Antirrhinums are suffering partly from slug attacks, but at the same time there is apparently a fungus, a species of Septoria, attacking the foliage. We recommend you to try spraying with potassium sulphide at the rate of 1oz. to three gallons of water. If this does not check the trouble, write to us again, giving full particulars of the mode of cultivation and sending further specimens.

PLANTS IN BOXES (*H. R. R.*).—The following plants will be likely to thrive in your boxes: Front box—Hypericum calycinum (evergreen, St. John's Wort); second box—a mixture of Aucuba japonica and Berberis Aquifolium, both evergreens; third box—Jasminum nudiflorum; and Ampelopsis Veitchii to grow on the wall. It will be necessary to drain the boxes well and provide really good loamy soil in the first instance. If the leaves become very dusty, syringe them occasionally with soft-soap water, followed by clean water.

FLORISTS' FLOWERS (*F. H. W.*).—The florist's type of Ranunculus is not now in general favour, and the most likely reason is that public tastes alter as time goes on, as instance the decline of Balsams and Hyacinths and the increasing popularity of Carnations and Narcissi. Mr. T. Smith of Newry, Ireland, or Messrs. Barr may be able to supply named varieties, while a post-card would secure a catalogue from any of the bulb-merchants advertising in THE GARDEN. Some of the Auriculas you mention are old kinds and not in general cultivation. Smiling Beauty was exhibited in 1877 by the Rev. F. D. Horner at the Crystal Palace in his first-prize set of twelve, but is now probably superseded by others. Acme is one of the best white-edged Auriculas. It has been exhibited 141 times in winning stands at the London shows during the last ten years, which is a first-rate testimonial. Sunshine we do not know. Sapphire has a pale yellow tube, white paste, and violet blue edge. Mrs. Potts has a margin of violet, but the stem is weak; and Favourite is, no doubt, the finest of those with a violet edge. There is not much to choose between Henry Wilson and Shirley Hibberd. Both are good; personally, we prefer the latter. Auriculas have produced more autumn flowers than usual, and growth has commenced earlier this season owing to the exceptionally mild weather. A second-hand bookshop is a good hunting-ground for old books, but an advertisement in THE GARDEN would no doubt bring you some replies, as such books as you require are somewhat scarce.

DELPHINIUM SEEDLINGS (*J. B.*).—So far as hardiness is concerned, the seedlings need no protection whatever, and a frame is frequently harmful, in that it harbours slugs, unless these are well looked after. You may certainly put the seedlings into the frame, but first place in a few inches of coal-ashes and so raise the boxes that the plants are kept near the light. Do not close the frame entirely; allow plenty of air day and night. Dust the plants and the frame with a little fresh, dry soot, and it will render the seedlings distasteful to the pest. Early in March plant them in rich, deeply-prepared garden soil, allowing about two feet between the plants for development. Thus treated, the plants will stand for two or more years. We much regret that your letter has been mislaid.

PLANTS FOR BORDER (*E. Chester*).—For a tall plant you could not plant anything more suitable than the Sweet Pea in white, blue, mauve, cream and pink shades. This would hide the wall and give you a display of flowers for many weeks. Prepare a deep trench of soil now 2 feet from the wall and sow seeds early in March. As the wall is of red brick, the scarlet shade of Sweet Pea should be avoided. In front of the Sweet Peas white and pink Lavateras, Rocket Larkspur, white Tobacco, tall Antirrhinums in several colours, Helianthus cucumerifolius, Nigella, Calliopsis in variety, Poppies and the like should appear; while nearer the front Asters, Stocks, Linums, Chrysanthemum coronarium in variety, C. carinatum, Sweet Sultan, intermediate Antirrhinums, Statice sinuata, Phlox Drummondii, Mignonette, Marigolds, Candytuft and other things should be seen. The Antirrhinums would be best obtained as small plants in March; the others could be sown (quite thinly) in their positions. If you bought a few dozen plants of Pentstemons and Salvia Glory of Zurich, a brilliant effect would be secured till the arrival of frosts. The young plants are very cheap.

THE GREENHOUSE.

ALBUCA NELSONII (*Seeker*).—A pot 7 inches in diameter will be quite large enough for the Albuca, and if the bulb is too long to bury it completely, it will be better to leave an inch of the upper part above the ground than to use a larger pot.

AZALEA MOLLIS DROPPING ITS LEAVES (*W. A. C.*).—The dropping of the leaves of Azalea mollis clearly indicates some error of culture. Perhaps the plants are kept too wet or too dry, or it may be owing to their having been potted just before they were taken into the greenhouse, so that the roots had no time to take possession of the new soil.

ACACIA ARMATA LOOKING BARE (*W. A. C.*).—It is quite probable that the Acacia had, previous to your purchasing it, been grown in a higher temperature than that in which it now is, and this would be sufficient to account for the leaves dropping. Excesses of drought or moisture and great fluctuations of temperature might also play a part in the matter.

LILIES OF THE VALLEY AFTER FORCING (*W. A. C.*).—Those Lilies of the Valley that have finished flowering may be kept in the greenhouse or placed in a frame where they are safe from frost. They must be watered as before. Then in May they can be planted out in a prepared bed, taking care they are not allowed to suffer from the want of water during the summer. Even then they will be two or three years before they flower freely, and for this reason those that have flowered in pots are very often thrown away.

CYCLAMEN AFTER FLOWERING (*W. A. C.*).—After the Cyclamen have done blooming they must still be kept in the greenhouse, watering them as before till the leaves turn yellow, when they must be kept drier, and when totally dormant, water must be almost discontinued. When space in the greenhouse is a consideration, the plants may later on be turned out into a frame; but at present the risk of severe frosts is too great to do this. When dormant they may be kept almost dry till midsummer, when they should be shaken clear of the old soil and repotted in a mixture of loam, leaf-mould, broken brick rubble and sand. After potting they must be watered sparingly till growth recommences. The best place for them during the summer is in a frame where they are shaded from the direct rays of the sun. In hot weather frequent sprinklings are very beneficial. Plenty of air should be given, but the lights must be put on in the event of heavy rains.

CARNATIONS DISEASED (*Stockport*).—The "chocolate-coloured blisters" on the leaves of your Carnations are due to the presence of the so-called "rust," in reality a fungus vegetating and first developing within the cuticle of the leaf. Unfortunately, Carnations, like ordinary mortals, are prone to a variety of diseases, and the past wet and sunless season in conjunction with a mild winter has been most favourable to their development. Usually a rather dry, buoyant atmosphere—that created by warmth and a free ventilation—will, with careful cultivation and studiously avoiding head watering or syringing, prevent any undue spread of the disease. In other words, moisture, and that phase of moisture which is the outcome of a close, stuffy atmosphere, favours its growth, while dryness is opposed to it. If, therefore, you maintained a temperature of 55° with air on night and day at the roof ventilators, all moisture would be dispelled and the plants presently brought into a fresh, clean growth.

Salt in solution is fatal to it, but this would also be fatal to the plants if allowed to penetrate to their roots. You had better wet the "blisters" with the aid of a camel-hair brush. Dissolve a tablespoonful of common salt in a pint of water and employ it thus, or, if this is likely to prove too tedious an operation, get a small piece of sponge or even cotton-wool and, having wetted it in the solution, wipe the leaves on both surfaces. By frequently rinsing the sponge in the solution, the germs will be retained and destroyed. Some varieties are nearly, or quite, immune from rust; others take it badly. Continued greenhouse treatment on intelligent lines as suggested will accomplish much, and unless the plants are now overwhelmed by the rust, they will, with longer and brighter days, grow out of it.

PRIMULA MALACOIDES (*M. S.*).—We cannot understand your lack of success in the culture of Primula malacoides, as it is, in a general way, so easy to grow. The fact of the crowns damping off would suggest that the plants had been kept too close or fed too much with stimulants. Despite the fact that you say feeding was not overdone, we are inclined to think that this is at the root of the trouble. A quantity of beautiful plants came under our notice a short time since which had been given no stimulants whatever. The seed was sown in the spring and the plants grown in a frame throughout the summer, their final potting being into pots 4½ inches and 5 inches in diameter. The compost in which they were potted was made up of loam, leaf-mould and sand, no manure being employed. We would suggest that next season you treat yours in the same way, and we do not then think that you will have any further trouble in the matter.

PRIMULAS (*B. F.*).—The Primula that sets up a form of eczema in some persons who handle it is P. obconica. While it is most irritating to many, others are totally unaffected by it. This species does not form a regular crown as in the Chinese Primula, but produces a dense tuft of radial leaves. The blade of the leaf is broadly oblong, with a heart-shaped base, and it is not lobed as in the Chinese Primula. The flowers, which are borne in clusters on stalks from 6 inches to 9 inches or thereabouts in height, vary in colour from white to crimson through various intermediate shades, though in the original species they were of a soft lilac tint. A description in words is a difficult matter, but we have no doubt that you will be able to recognise P. obconica from what we have said. With regard to the Aconites and Snowdrops, you do not say when they were planted, a likely cause of failure being that they were kept out of the ground too long. They ought to be planted in September or, at the latest, in the first half of October. In a fairly good sandy loam they should give no trouble whatever. No mulching of manure is needed.

SCHIZANTHUS (*C. M. L.*).—In order to obtain good flowering plants of Schizanthus in April and May, the seed should be sown in September and the plants grown on in a light, airy house, where they are safe from frost. Above all things, avoid a warm, stuffy atmosphere, as the royal road to success is to induce the plants to grow stoutly and sturdily from the first. They may be wintered in pots 4 inches in diameter, and should be pinched once or twice according to the habit of the plant. Pots 6 inches in diameter are very suitable in which to flower them, though extra vigorous ones may, if required, be put into 8-inch pots. Good loam, with an admixture of well-decayed manure, leaf-mould, and sand will suit them well. While the seed should be sown as above for early flowers, if sown now the young plants will come on quickly and afford a good succession to the autumn-sown ones. The main thing is to grow them sturdily from the first. In a temperature of 50° to 60° the seeds will quickly germinate, and as soon as this happens the young plants must have plenty of light and air. When potted off they will need to be kept closer, and perhaps shaded for a few days, till the roots take possession of the new soil. For pot culture all are good, but the large-flowered, compact hybrids and wisetonensis are among the best if dwarf plants are required.

ROSE GARDEN.

PRUNING ROSES (*J. C. F. M.*).—The variety Juliet should have the growths that were produced last summer pruned back to about a foot in length. You will notice there were two growths—that made before the first bloom and that made after. It is the first growth we refer to. Do not peg down the Austrian Briar, but just leave the plant quite unpruned. It will bloom best on the small wood made last season.

SULPHATE OF IRON FOR ROSES (*Mrs. T.*).—Undoubtedly sulphate of iron is good for Roses, but how far it may be applied in conjunction with the artificial manure you mention would depend upon an analysis of the article. It is generally looked upon as the best fertiliser for Roses grown under glass. In an analysis made of the composition of a Rose plant it was found that iron was present in the roots, 2·86; wood, 4·23; leaves, 2·49; and flowers, ·97. Probably the fertiliser already contains a large proportion of iron. Instead of using it we should advise making some liquid manure with soot placed in a peck bag and steeped in a cask. Another cask could be prepared by steeping some sheep-manure (this also in a bag) and giving the Roses alternate waterings with it as soon as the flower-buds are visible. The liquid could be applied about twice a week, and at first it should be diluted to half strength. We have found Wakeley's Hop Manure also an excellent aid to colour in Roses out of doors, and we should say it would be beneficial to pot Roses, but a great deal depends on how you have used the patent fertiliser you mention. We certainly do not recommend either to be used in conjunction with it; but if the fertiliser was added to the soil at the time of potting or has been given as a top-dressing, then you can refrain from using any more of it and give the Roses the others as mentioned when the flower-buds are forming, but not after the colour is visible.

FRUIT GARDEN.

WALNUT TREE BLEEDING (*J. W. T.*).—It is very difficult to stop the bleeding. It will stop naturally as soon as the tree begins to grow. We presume there has been no fermenting manure or leaves placed near its roots to disturb the normal winter condition of the sap? The likeliest way to stop it is to scar up the surface and so close up the pores of the sap, afterwards tarring with a thick coat of gas-tar.

APPLE TREE NOT BEARING (*Sutton-in-Ashfield*).—Take off the turf all round the tree for a distance of 3 feet from its stem. Break up the surface of the soil about an inch deep, and scatter over it about a quart of bone-meal, and then surface-dress the ground with a barrow-load of good farmyard manure, spreading it evenly over the surface round the tree. Your tree does not want root-pruning. Flue dust has but little manurial value; all the same, it does good when mixed with the soil, especially if the soil is heavy.

SWELLING ON THE RODS OF VINES (*G. W.*).—It is not often one comes across a wart or swelling on the stems of Vines, and there is no known cause for its appearance. It does not injuriously affect the health or fruitfulness of the Vines according to our experience, and the best way of dealing with it is to cut out the swelling with a sharp knife level with the bark of the Vine, and the bark will then grow over the wound. It is too late to cut it out now, as the sap will soon be on the move and there would be danger of the Vines bleeding.

KITCHEN GARDEN.

EARLY LETTUCE (*Oxon*).—As you possess a heated glass structure, we advise you to sow seeds of the varieties Tom Thumb Market and Early French, a Cos Lettuce, at once in shallow boxes filled with rich soil. The resultant seedlings should be transplanted in other boxes 6 inches deep, also filled with rich soil, 8 inches apart. Sow seeds again early in March, and then seeds in the open border in April. The seedlings from the early March sowings may be grown in the frame. For next winter sow seeds of Hicks' Hardy White and Black-seeded Bath in August, and again at the end of September. Some of the seedlings may be grown at the foot of the walls—9 inches from them—and some in the cold frame. In January, February and March sow seeds of those varieties named above in boxes again. Paris White is a grand summer Cos variety.

HERBS (*M. E. F.*).—In addition to the herbs and scented-leaved plants you enumerate, the following may be expected to thrive in your garden. Providing the soil is moderately good and loamy, it will suit all; but if poor, it ought to be enriched by the addition of well-rotted manure or better soil. Aspect is of little consequence. Balm (Melissa officinalis), Marjoram (Origanum Marjoram), Horehound (Marrubium vulgare), Tarragon (Artemisia dracunculoides), Wormwood (Artemisia Absinthium), Southernwood or Lad's Love (Artemisia Abrotanum), Sweet Basil (Ocymum Basilicum), Chamomile (Anthemis nobilis), Hyssop (Hyssopus officinalis), Pennyroyal (Mentha Pulegium), Peppermint (Mentha piperita), Apple Mint (Mentha rotundifolia), Honey Balm (Melittis Melissophyllum), Rue (Ruta graveolens), Summer Savory (Satureia hortensis), Winter Savory (Satureia montana), Tansy (Tanacetum vulgare), Lemon Thyme (Thymus Serpyllum var. citriodorus), Cotton Lavender (Santolina Chamæcyparissus) and the Sage Brush (Artemisia tridentata). In addition, such things as Parsley, Chives, Chervil, Borage and Fennel can be admitted if you wish. All are obtainable at a moderate price from any of the leading nurserymen.

MISCELLANEOUS.

ST. MARK'S FLY (*P. C.*).—The dark grey grubs are the larvæ of the fly which appears so commonly in gardens about St. Mark's Day, whence it has gained the name of St. Mark's fly. The grubs feed usually on the decaying leaves and so on in the soil, but when these are not to be had, they will attack roots of plants. They are perhaps more abundant in rather damp situations than elsewhere, but do not confine themselves to these positions. The best thing to do, if they are damaging the roots of any particular plant, would be to put a little lime or Vaporite or some similar soil fumigant about their roots.

IMPROVING THE SOIL (*Alumina*).—You cannot do better than bastard-trench the soil and thoroughly mix basic slag and long manure with it, not putting the manure in layers. Leave it as rough as possible in the hope of frost, but do not mix the manure and the basic slag; let them lie on the surface. As soon as they come into contact they must be buried. Potash salts will be quite unnecessary, for the soil contains abundance of potash, which the lime in the slag will set free. Another season the digging should be done in autumn, and it would be well to give a dressing of ground quicklime at the rate of half a bushel to the square rod at the same time. The value of lime and of the pulverising action of the frost cannot be overestimated when clay soils are being dealt with. Indeed, we should almost think it would be better to get the soil into thoroughly good heart before any permanent planting was attempted, for with the present conditions little can be expected from it. Is the drainage good?

LEMONS GROWN IN FRAME (*E. F. K.*).—We do not say that it is impossible to grow Lemons a pound in weight in a cold frame, but, considering the dull, cold weather of last year, it would be a difficult task. There is a variety of Lemon called Metford's Lemon which sometimes perfects fruits over two pounds in weight when the plant is cultivated in a warm greenhouse, and very large Lemon and Citron fruits are ripened every year on plants growing against an outdoor wall in a Falmouth garden. Perhaps you could get the gentleman who has grown the fruits to let you see them.

BUILDING AND HEATING A RANGE OF GLASS-HOUSES (*E. T.*).—At least a 12-feet run of wall or trellis space per tree would be necessary in the case of Peach trees. To accommodate seven trees on the back wall and a front trellis, a house 50 feet long would be required. The front trellis should be curved, so as to admit light over it to the trees on the back wall. A house 10 feet wide would be suitable. The Vines should be planted 3 feet apart at nearest; a house 30 feet long would answer for eight Vines. A forcing-house in the centre, 12 feet long and 10 feet wide, would do very well. The vinery should be 12 feet 6 inches wide. We are presuming that your houses would be lean-to. If so, the front wall of the Peach-house should be 20 inches high, with ventilation in it, and at the top of the rafters also. The front wall of the vinery should be 18 inches high, with front glass on it 2 feet 6 inches high, with ventilators in it and also top ventilators. The front wall of the forcing-pit may be of similar height, the glass portion also corresponding to that in the vinery. Good bricks usually cost about thirty-two shillings per thousand, and they are laid at an average cost of 10s. per thousand. You can thus get to know the cost of the walls, with the mortar and sand required, from a local builder. The cost of the wood and glass per foot run would be about ten shillings in the case of the Peach-house, and 15s. in the case of the forcing-house and vinery. It would be advisable to fix the boiler near the forcing-house, and to have two flow and two return 4-inch pipes round it. One flow and one return pipe would suffice in the Peach-house, and two flow and one return pipe in the vinery. A check-end saddle boiler would be the best to fix, with rings and rubber joints for the pipe connections. A local plumber could then fix the pipes, but we advise you to give the sizes of the houses (when you have decided on them) and the length of piping in each to hot-water engineers advertising in THE GARDEN, and ask for the lowest estimate with specifications. If you will refer to THE GARDEN, page 49, issue January 25, you will find useful hints on planting Vines. The Peach trees should be put in a firm soil, well drained, fan-trained trees being the best.

NAMES OF PLANTS.—*W. S., Hawick.*—1, Selaginella Braunii; 2, Helxine Solierolii; 3, Selaginella caulescens; 4, S. kraussiana; 5, Ficus radicans variegata; 6, Cæsalpinia species; 7, Chlorophytum elatum; 8, Sempervivum prealtum; 9, Adiantum formosum; 10, Gymnogramme japonica.——*A. D. Groves.*—Cotoneaster Simonsii.

NAMES OF FRUIT.—*Market Harborough.*—The Apple is Roundway Magnum Bonum. It should do in your soil. ——271, *J. B.*—The Apple is Baldwin's, and of no value grown in this country.

SOCIETIES.

THE NORTH OF ENGLAND HORTICULTURAL SOCIETY.

THE close of the second year of operations shows a paid-up membership of just over five hundred Fellows or members, sixteen affiliated societies and a turn-over of £650. The increase in Fellows is nearly fifty per cent., and the number of affiliated societies has been doubled. The society is still handicapped by its heavy initial expenses, but in the coming year income and expenditure are expected to be made to balance each other. This year should see a great movement forward, as very few Fellows or members have fallen out of the ranks except by death or inability to attend shows, and an appeal is to be made on a large scale. Various special sub-committees are taking matters in hand with keenness, chief among which is the new magazine committee, which will run the magazine on the "round table" method, there being sub-editors from each of the four main committees of experts, besides a chairman (Professor R. S. Seton) and a printing and advertisement secretary (Mr. T. H. Gaunt). The annual meeting will be held at the Queen's (Midland) Hotel, Leeds, on Wednesday, February 19, at 5 p.m.

WARGRAVE AND DISTRICT GARDENERS' ASSOCIATION.

A GOOD number of members assembled on Wednesday evening, January 29, to hear a lecture by Mr. T. Tunbridge, F.R.H.S., head-gardener to S. C. Davies, Esq., The Three Elms, Remenham, on "The Pruning of a Few Groups of Roses." These consisted of the following: the multiflora, wichuraiana, Noisette, Tea and China sections. Most minute details were given for the time and manner of pruning in the best possible way, the lecturer strongly advocating autumn pruning to spring pruning in the above-mentioned groups. A splendid discussion ensued, and many questions were asked the lecturer. These he kindly answered. A hearty vote of thanks was accorded Mr. Tunbridge at the close, being carried with acclamation.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Orchids Destroyed at Kew.—Those who love flowers, and particularly those who enjoy the rare kinds that are always to be found at Kew, will learn with indignation that a number of Orchids were destroyed during the small hours of Saturday morning last. We understand that an envelope bearing the words "Votes for Women" was left among the broken plants. A great deal of the glass in the three houses was broken and a number of plants hacked to pieces.

The Rev. W. Wilks.—As we have already pointed out, this week the Rev. W. Wilks completes twenty-five years' hard and valuable work for the Royal Horticultural Society as secretary. We had intended publishing his portrait, with some particulars of his work, but after hearing his speech at the annual dinner of the Horticultural Club, where he stated that he positively disliked such attention being drawn to him, we respect his wishes and allow his work to speak for itself.

Sir Trevor Lawrence, Bart., K.C.V.O., whose portrait we have much pleasure in publishing on the following page, has been president of the Royal Horticultural Society for the long period of twenty-five years, a position he has admirably filled to the benefit of the society and horticulture in general. Sir Trevor has not been merely a president in name; throughout the whole of his presidency he has attended almost every Council meeting, where his vast and intimate knowledge of horticulture has proved highly beneficial. We understand that, owing to the work now being beyond his strength, Sir Trevor contemplates resigning his position, a resolution that we feel sure all who know him will deeply regret.

Primula denticulata.—This is one of the earliest of the hardy Primulas to flower. In many rock gardens and borders its heads of dense lilac flowers are already showing colour. It is a native of the Himalayas, rather like P. capitata in habit, but the flowers are larger and of different colour. This Primula is particularly effective when planted in breadths in short grass about the alpine garden. It likes a moist position. The varieties alba and cashmeriana are well worth growing, the latter having violet flowers with yellow eyes.

Royal Gardeners' Orphan Fund.—The annual meeting of this excellent Fund, held on Friday of last week, ended in a most satisfactory way for the whole of the candidates that were nominated for election. No fewer than twenty-five cases of motherless and fatherless children, all of them of a most distressing nature, were brought forward. Nineteen children were elected in the usual way, and the remaining six were placed on the funds in anticipation of the forthcoming grant from the Royal International Horticultural Exhibition. We commend this Fund to the notice of our readers. Full particulars may be had from the secretary, Mr. B. Wynne, 19, Bedford Chambers, Covent Garden, London, W.C. A report of the proceedings at the annual meeting will be found on another page in this issue.

Narcissus Golden Spur for Pots.—This comparatively old variety, just now at its best in the conservatory, is one of the finest and brightest of the early-flowering Narcissi for growing in pots. Its medium-length, sturdy flower-stems support the brilliant self yellow flowers in a graceful manner, and if well grown, wire or other artificial supports are not needed. Golden Spur is equally as valuable in the outdoor garden, creating a bright splash of colour early in the year such as we get from no other variety just at that time. The market-growers fully appreciate its value for forcing.

Apple Lane's Prince Albert for Dessert.—It is difficult to understand why this useful Apple is not more extensively grown, for it has much to commend it. The trees usually start to crop when young, produce fruit regularly every year, and the Apples can either be used for cooking or dessert. We have been using some for the latter purpose since the early days of January, and although they cannot be compared with Cox's Orange Pippin, Ribston Pippin, or others of that class, they are far superior to most of the Colonial Apples with which our shops are at present flooded.

When to Prune Winter Jasmine.—We so often see this beautiful winter-flowering shrub mutilated by injudicious pruning, or by pruning done at the wrong season, that a timely reminder may not be out of place. It is not often that it requires much attention with knife or secateurs, a thinning out of weak, overcrowded shoots, with the shortening of any that may be encroaching too far on the available space, being all that is necessary. The best time to do this is just now, when the flowers have faded. Young wood that is made during the coming summer is likely to give the best display of flowers next winter.

Spraying Fruit Trees: A Warning Note.—Owing to the very mild winter and the subsequent condition of certain fruit trees, we take this opportunity of warning readers against the use of caustic alkali wash, recommended by Mr. E. Molyneux on page 80, upon those trees that are very forward. A few days ago we observed Apple shoots, of the variety Keswick Codlin in particular, just on the point of breaking into growth. Although February is usually considered a good month for winter spraying with the caustic alkali wash, yet if practised this year it will have an injurious effect upon those trees already commencing growth. It is, however, perfectly safe to use it upon those trees where the buds are still quite dormant.

CORRESPONDENCE.

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

Rose Florence Haswell Veitch.—I strongly recommend this Rose for the garden; it is vigorous in growth, flowers freely, is fragrant, and the colour is especially noticeable—scarlet, with a flush of velvet overlying the petals.—E. M.

Iris Vartanii and its White Variety.—We were interested to see figured in your February 8 issue, page 69, the fine pan of Iris Vartanii, and should like to call attention to the very little known white variety of it which goes under the name of Pearl of Jerusalem or White Pearl. We introduced it a few years back as a variety of Histrio, but it showed itself to be Vartanii as soon as it flowered. Another point worth mentioning with regard to the species is its delightful fragrance, which Sir Michael Foster seems to have overlooked in his invaluable little book on bulbous Irises. It strongly reminds one of Almonds.—R. WALLACE AND CO.

Kerria japonica flore plena.—Mention is often made of the usefulness of this flowering shrub for various purposes, but nothing is said of its value as a wall climber for a northern aspect—a site at all times difficult to effectively clothe with flowering subjects. Covering the whole of the northern side of a cottage here, 18 feet high, this Kerria makes a glorious sight every year, smothered quite thickly as it is with its rich orange-coloured blossoms. All the attention it receives is the tying of the current season's shoots to the main branches directly flowering is past.—E. M., *Bishop's Waltham, Herts.*

Sweet Peas Reverting to the Wild Type.—I was interested in reading the article by Mr. Vernon Hill on this subject, page 57, February 1 issue, and rather surprised to find there could be any doubt on the point indicated in the above heading. It is a matter of very common experience in India that Sweet Peas of good varieties in the course of two or three years will have gone back to two types (1) blue and maroon, presumably the purple referred to, and (2) white and pink. Now, in India we have not the wild Sweet Pea, and the reversal is evidently due to the promiscuous hybridisation. The first year a few come true, the second still fewer, and I believe I am right in saying that in the third year you would find none. If this is not the case in England, it would be interesting to know why it occurs in India. I should like to know also whether the white and pink is one of the wild types.—A. NEWNHAM (Lieutenant-Colonel, I.A., retired), *Fabron, Nice.*

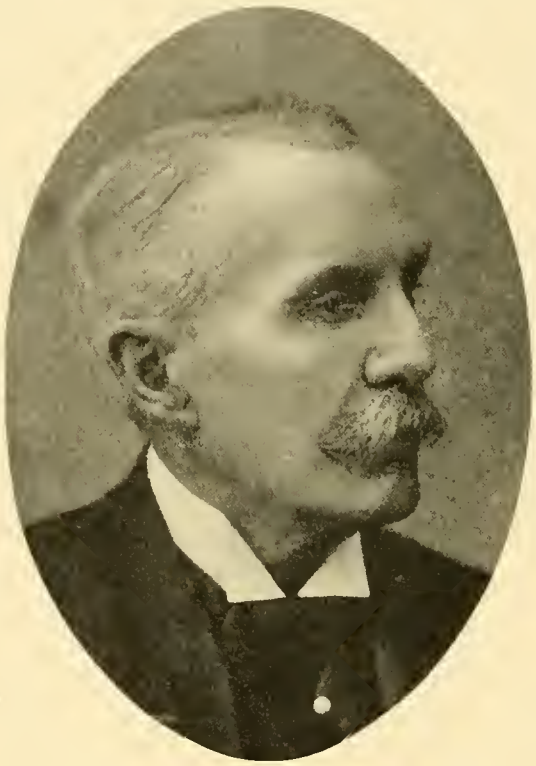
A Remarkable Hydrangea.—I am sending a photograph of a very free-flowering Hydrangea growing on the premises of the Shanklin Tennis Club. It is said to have been planted in the memorable year of 1887, and, as the picture shows, it has now exceeded its allotted space, having quite grown out of bounds. Last year this shrub carried about six hundred heads of bloom, and was the pride of Mr. W. R. Jones, the club gardener. Its position is 100 feet above sea-level, and the flowers, of which only about half are shown in the photograph, are invariably deep blue.—H. C.

A Proposed Daffodil Society.—A misquoted Latin phrase in the Rev. J. Jacob's article on this subject which appeared on page 75 of our issue for last week, has aroused the poetic spirit of a well-known Daffodil expert, who sends us the following:

"CARTHAGO EST DELENDUM."

A healthy rule, in my days at school,
To block and birch would send 'em
Who wrote, in defiance of godly alliance,
Carthago est delendum.
For, though he'd own that the Punic town
Was a masculine virago,
The Roman said (and note that he made
The words the other way go)
Not "it," but "she destroyed must be.
Delenda est Carthago." G. H. E.

—— I was very glad to see Mr. Jacob's interesting article in your last issue on this subject. Following as it does the letters of Captain Kitchin and Mr. Carne Ross, both of whom I know to be keen Daffodil enthusiasts, it will, I feel sure, be the means of uniting all lovers of this flower in their determination to give it a national society of its own. In my opinion a National Daffodil Society should have been formed years ago, and now that new varieties of the Daffodil—good, bad and indifferent—are being introduced yearly by the thousand, it appears to me to be imperative that we should have a society whose business would be to sift the good from the bad, draw up new classifications when necessary, and generally take charge of the Daffodil and do what the National Rose Society does for the Rose. If there is any single flower that should have a national society of its own, it is the Daffodil. Probably there is no other hardy flower which exists in such a variety of forms and which offers such possibilities to the hybridist. It is a florist's flower and a decorative flower, and although it repays good cultivation, is easy to grow. The Royal Horticultural Society and the Midland Daffodil Society hold excellent shows, and I look forward each year with more pleasure to my visit to Birmingham, where one meets one's Daffodil friends. These shows, however, cannot do what a national society could for the Daffodil. — N. Y. LOWER, *Presteign, Radnor.*



SIR TREVOR LAWRENCE, BART., K.C.V.O.

Carnations and Cats.—Many will consider that the only connection between the two is that the initial letter of each is the same. Such, too, was my opinion until lately, when I found the growing points of many of my Carnations eaten off. My thoughts at once reverted to sparrows, and I immediately decided that those cheeky but not wholly mischievous birds should be fed no more. Although I watched the sparrows for a long time, I could obtain no evidence of their being the authors of the mischief, but found out quite sufficient to show that I was blaming them for damage which they did not do, as I detected the culprit in a neighbouring cat, which was several times seen carrying out its work of destruction. Cats sometimes eat grass for medicinal purposes, and the resemblance between the two is probably the reason why it turned its attention to the Carnations. Afterwards I found it eating both Pinks and Thrift. Lack of grass is not the cause, as there is plenty close by.—H. P.

Serious Losses Among Roses.—Many Rose-growers in the South-West of Scotland will have reason to sympathise with Mr. Blair, whose note appears on page 66 of last week's issue. Climbing Roses here have suffered extensively, and many which have stood unharmed for a number of years have been severely injured. I do not like iron for climbing plants, and all my climbing Roses are either on pillars, walls, or trellises, yet they have suffered greatly, and I fear that one or two, at least, are completely gone. Most of them are severely crippled. This is noteworthy among the wichuraianas, and this is not surprising in view of the "Tea blood" in these charming Roses. The typical wichuraiana is all right, and some of the hybrids have come through with comparatively little injury. I have been much surprised at one plant of the old Fellenberg grown as a climber, which has been in its present position, sheltered from the north and east and against a wall and arch for some years. This plant is cut to the ground. Another, on a pillar, is not so much injured. Dorothy Perkins is partly injured, and is worse in some parts of the garden than in others. One peculiar thing with Dorothy Perkins is that a plant in a place where it generally suffers from wind in bad summers is little the worse, and a plant of White Dorothy against the same arch as the one of Fellenberg alluded to before is quite fresh and healthy-looking. Tea Rambler, which is often hurt in winter and is not so satisfactory as one would like, looks sadly crippled and will hardly recover. Blush Rambler is all right. So is Lady Godiva, and only some two or three of the considerable number of other ramblers and wichuraiana hybrids are much harmed. Crimson Rambler has suffered considerably. Dwarfs are not much the worse, but these were saved by a heavy snowfall which remained on the ground during the worst of the frost towards the end of November and the beginning of December.—S. ARNOTT, *Dumfries.*

SOLUTION AND NOTES OF ACROSTIC No. 8.

Firsts—"MENDEL DE VRIES." Lasts—"PLANT BREEDING."

* 1.	M	(MARTYNIA PROBOSCIDEA)	P
† 2.	L	E NOTR	E
‡ 3.	N	ICOTIAN	A
§ 4.	N	OSEBLEE	D
‖ 5.	E	HRE	T
¶ 6.	B	ASI	L
** 7.	D	ISPLANTE	R
†† 8.	E	V	E
‡‡ 9.	V	AN HOUTT	E
§§ 10.	D	UTCH GARDENE	R
‖‖ 11.	I	RIS KÆMPFER	I
¶¶ 12.	N	ONESUCH PALAC	E
*** 13.	S	IMPLIN	G

* The seed-pods are "armed with two long hook-line appendages." Speer's "Annual and Biennial Garden Plants" under "Martynia." † Le Notre made Versailles for Louis XIV. ‡ Nicotiana, the Tobacco Plant family. § Prior's "Popular Names of British Plants." The name Millefolium was transferred from the Horsetail to the Yarrow, and hence the properties of one were passed on to the other. ‖ Ehret was employed by Trew. See Mrs. Earle's "Pot-Pourri," page 60. ¶ Cole's "Art of Simpling" and Folkard's "Plant Lore" under "Basil." ** Figured in some editions of "Hortus Floridus" and in Liger's "Compleat Florist," page 146. †† Eve in Milton's "Paradise Lost." ‡‡ Van Houtte was a very celebrated nurseryman of Belgium. §§ See "Pritzel," edition 1851, under "Henry van Oosten." ‖‖ See Dykes' "Iris" ("Present-day Gardening"). ¶¶ Nonesuch Palace. See Amherst's "History of Gardening," second edition, page 95, and also Johnson's "History of Gardening," page 59. *** Cole published the "Art of Simpling" in 1656. One of the objects of gardens about that time, and for a great many years previous, was to provide a home for medicinal plants. The plants were called "simples."

SOLVERS OF ACROSTIC No. 7.

CORRECT solutions of Acrostic No. 7 were sent in by the following: "White Lady," Mrs. F. Jones, "Elm, Bampton," "Rustic," L. A. Louden and "R. P. B."

*** *Owing to the great amount of work entailed in sorting out the replies, we regret that we are unable to publish the names of those who have solved No. 8 this week. These, with the names of the prize-winners in the competition, will appear next week.*

FORTHCOMING EVENTS.

February 18.—Royal Horticultural Society's Exhibition and Meeting. Lecture by Miss Mason on "Some Flowers of Eastern and Central Africa," illustrated by water-colour drawings. Croydon and District Horticultural Mutual Improvement Society's Meeting.

February 19.—National Fruit Growers' Federation's Annual Meeting at the Royal Horticultural Society's Hall. North of England Horticultural Society's Annual Meeting and Show at Leeds.

February 20.—Linnean Society's Meeting.

February 28.—Beckenham Horticultural Society's Meeting and Lecture.

March 1.—Société Française d'Horticulture de Londres Meeting.

ROCK AND WATER GARDEN.

THE FIRM PLANTING OF ALPINE FLOWERS.

NOW that planting-time will soon be here, it seems a good thing to urge upon amateurs and others the necessity of firm planting of alpine flowers. I have seen so many instances of plants being lost through planting them too loosely or in too loose soil that it seems only right to caution beginners, in particular, on this point. One is frequently consulted regarding the losses among alpines, and it is not too much to say that a large proportion of these are caused by defective planting. This frequently arises through the soil being made unduly light by the addition of too much leaf-soil and sand. Both are good when used rightly, but an excess is injurious.

A BLUE-FLOWERED HYDRANGEA GROWING AT SHANKLIN, ISLE OF WIGHT. (See page 78.)

I had a striking instance of this a year or two ago, when, on being asked to visit a garden to advise about alpines which were not doing well and where many of them were dying off, I found that they were planted in soil containing far too much loose, flaky leaf-mould and sand. This would not have mattered so much even had the compost been made quite firm, but it was laid in the slackest fashion and no attempt had been made to firm it at all. Then the plants had been put in and never pressed into the soil or the latter made firm about them. In consequence, their roots never had a chance of taking hold of the soil, and many of them were on the verge of their demise. At once the lifting of the plants was advised, together with the addition of some good loam and making the whole firm, though not into a stiff mass. Then the alpines were replanted, with the soil made firm about their roots, and a good watering given, the month being May, not the best time for the operation. The result was that the alpines never looked back again, and by the end of the season they were in excellent condition.

The quantity of leaf-soil and sand to be used depends on the quality of the loam; the stiffer the latter is, the more leaf-soil and sand is required. Then the leaf-soil used is often too flaky and improperly matured, so that fungoid growths appear, to the detriment of the alpines planted in it. I would emphatically enforce the necessity of firm planting, spreading out the roots well, pressing the earth well about them and finishing off by pressing it about the neck of the flowers, and putting a few stones about them also if they are not planted in crevices. "Plant firmly" is a piece of advice which should not be neglected. AN OLD ALPINIST.

A LITTLE-KNOWN CAMPANULA.

IT is hardly possible to overpraise the charming Campanula raddeana, but it has one defect which it is unwise to endeavour to conceal. This is its inability to maintain itself upright without some assistance—rather a serious drawback for a plant which is so pretty on rockwork. One does not like to see a plant on the rockery upheld by a stick or twig, yet this seems necessary with C. raddeana, unless we can grow it through some slender rock shrub which would uphold its stems. These fall forward owing to the weight of the many large bells which they bear, and, unfortunately, these flowers seem always to fall with their "faces" against the soil, so that they do not show so nicely as do many other flowers with this failing. But C. raddeana is such a lovely thing that it is worth while trying to contrive some support which would not be obtrusive. With me it is about a foot high, and gives with great freedom stems laden with purple blue bells on a plant of the freest-growing habit, the roots running sufficiently rapidly to increase quickly without being too troublesome. S. ARNOTT.

THE FRUIT GARDEN.

THE WINTER SPRAYING OF FRUIT TREES.

CONTINUING my article, page 637 of the last volume, I now purpose dealing with some chemical winter washes employed for the double purpose of the cleansing of the trees from moss, and lichen, and from such pests as eggs of the winter moth, woolly aphis, mussel-scale ova, Apple blossom weevil, oyster-shell bark lice, earwigs and the caterpillar of the Codlin moth in its cocoon.

The Board of Agriculture, in the valuable leaflets issued, strongly recommend the use of winter washes for fruit trees, and mention the Woburn Wash as being desirable.

In addition to the pure lime spray noted, I am using the following wash, made from this formula, in addition to some prepared washes which I will also note, as in many instances those persons with but a few trees prefer a prepared wash to the trouble of preparing one from a formula. In the soil here lime is not needed so much as in soils of a different character, as the subsoil is chalk at some distance from the surface. For this reason other washes suit me equally as well as the lime spray. Caustic soda, 1½lb.; copper sulphate, 1½lb.; lime, ½lb.; paraffin emulsion, 5 pints; water, 10 gallons. Dissolve the copper sulphate in six gallons of water and slake the lime in three gallons of water. The dissolved copper sulphate should be run through a fine sieve to remove any portions of a gritty character. Then add the paraffin emulsion and stir them together, adding the caustic soda and sufficient water to make ten gallons.

The paraffin emulsion requires careful preparation. Boil one gallon of skim-milk, gently, gradually add two gallons of paraffin by pouring it gently in the middle of the milk, but not in sufficient quantity to take the milk off the boil. Add 1½lb. of soft soap, gently whipping it up in the middle of the vessel, keeping it away from the side of the copper, as it is so liable to burn to the vessel.

Some growers may prefer to use iron sulphate in the place of copper sulphate; in that case add half a pound of iron sulphate instead of the 1½lb. of copper sulphate to the same ingredients and the same quantity of water. Prepare and apply in the same manner any time between November and the end of February.

A simple winter wash can be made with lime and sulphur only in the same manner as recommended in my book, "Chrysanthemums and Their Culture," which I wrote and practised in 1886. Place 2lb. of sulphur and 2lb. of lime which has not been slaked in ten quarts of water, and boil for twenty minutes. Use four wineglassfuls of the mixture to four gallons of clean cold water. This is a capital fungicide for summer use also, using it at half the strength, for many of the insect and fungus pests which attack the trees.

Of prepared washes the following are desirable: Bentley's Concentrated Alkali Wash is most efficacious in cleansing the trees, rendering the bark quite bright and imparting a dark colour to it. In using this mixture I would caution users not to drench the trees unnecessarily with the liquid, especially standards, because the stems become too saturated with the wash running down, collecting as it does from the branches to the stem, and, of course, the older the tree the more numerous are the lodgments in the stem for the wash; an undue quantity might do some slight harm. Dissolve the contents of one tin in fifteen gallons of slightly warm soft water.

Messrs. Strawson prepare an article known as Strawsonite, which is efficacious, easy to apply and quite safe. Add 2lb. Strawsonite to fifteen gallons of cold water. Keep the spray fluid well agitated while spraying to prevent the settling of the mixture at the bottom of the sprayer.

Messrs. Voss and Co. prepare a liquid winter wash which is easy to use, at the rate of one gallon to fifty gallons of water. This wash I am giving an extended trial this season as it is so simple of application.

Swanmore Park. E. MOLYNEUX.

THE KITCHEN GARDEN.

OUTDOOR TOMATOES.

THE past year was, on the whole, not very suitable for the production of high-class Tomatoes in the open garden. Some very fair fruit, however, was secured from plants growing upon south walls. The seed for this year's supply of plants should be sown in heat during February and March. Failing a warm greenhouse, use may be made of a hot-bed to raise the seedlings. A small pan, or even a pot, will contain sufficient for the average amateur's garden. Fine soil, made moderately firm, and good drainage are essential points in the production of healthy plants.

The plants from their first appearance must be placed in a position where they will obtain the full advantage of light, and as soon as they are strong enough, air within reason should be admitted. This will secure short-jointed, sturdy plants, so important a factor in the ultimate success of the crop. The seedlings may be pricked out when large enough to handle. I prefer to plant them around the edge of 5½-inch pots; it is then a simple matter to divide the ball of soil and pot on the plants when they are ready without injury to their roots. The plants grow quickly as the season advances, and they may be given a final shift singly into 5½-inch pots. As these pots become full of roots and the sun increases in power, plenty of water will be required by the plants. They may be arranged in a frame, allowing plenty of room for the air to circulate freely between them. Frames are so often overcrowded during the spring, and it is a good plan to arrange the Tomatoes on a bed of ashes under the protection of a south wall or fence during the latter part of the month of May. A framework of Bamboo canes or poles may be fitted up, on which mats may be placed at night as an extra protection against damage by frost. The first week of June is a suitable time for planting.

The first places to plant are those against walls or on fences facing the south or west. The next best places are on borders immediately in front of these walls or fences, while in some localities and during favourable seasons good crops have been taken from the open ground. Do not add manure at the time of planting, except in cases where the soil is very light and poor. Plant firmly. Secure the plants to the wall or to stakes. Apply water as required. Remove all side shoots as they appear. A mulch of manure is advantageous in preserving moisture and affording food to the plants. Three, or in sunny positions four, bunches of fruit may be allowed to set on each plant. The plants should then be stopped at one leaf above the last bunch. A portion of the foliage may be cut away, so that the fruit may derive full advantage of the sun. Do not entirely denude the plants of their foliage. The latest bunches seldom ripen thoroughly outdoors. They may be placed on the shelves of a greenhouse or in a sunny window to finish. Satisfaction and Sunrise are excellent varieties for growing in the open garden. COLIN RUSE.

THE GREENHOUSE.

NOTES ON ORCHIDS: CALANTHES.

THERE are several Orchids well cultivated by gardeners who do not claim to be Orchid-growers in a general sense. Calanthes are among them, for they are special favourites with those who live outside the metropolitan area and away from large manufacturing centres, where dense, smoky fogs play havoc with the blooms, while the absence of light also has a bleaching effect on the flowers.

In an ordinary establishment there usually exists a Melon-pit, a shelf in the vinery, or a Cucumber-house, where Calanthes thrive admirably. At this season they will soon commence to grow, and when the new shoot is about two inches long and ready to push out a batch of roots, the repotting may be taken in hand. The bulbs have, no doubt, been kept quite dry at the base through the winter months, and to prevent any injury to the new growth, the pots should be given a thorough watering a day or so before potting operations begin. The old soil is then shaken out and all the roots cut away excepting a little tuft to hold the bulbs in position till they become established. One bulb behind each growing point is sufficient, and where the older bulb has not decayed, it could be placed in some silver sand till growth is apparent, if it is desirable to increase the stock. However careful the grower may be, a few of the bulbs lose their top; but these may also be utilised in a similar way, when they will generally produce a "break."

Soil and Repotting.—A suitable rooting medium consists of the best fibrous loam one-half, peat one-fourth and partly-decayed Oak leaves one-fourth, and to every bushel of the mixture add a 6-inch potful of crushed crocks or finely-broken charcoal. Ordinary flower-pots prove the best receptacles, which should be filled one-fourth of their depth with drainage, and over this can be arranged a thin layer of fibrous loam. The bulbs ought to be potted singly, the larger ones being placed in 6-inch pots and the smaller ones in 4½-inch and 5-inch pots. Make the compost fairly firm and allow the base of the new growth to rest upon the soil, which may be an inch or so below the rim. This will leave ample space for watering and top-dressing during the summer months. After the repotting is completed, the bulbs should be provided with a light position in a house where an average temperature of 60° to 65° Fahr. can be maintained; but as the sun gains power no harm will accrue if the thermometer rises to 75° or even 80°. Keep the surroundings moist, but scarcely any water will be required at the root for about six weeks. As growth advances and root action becomes more vigorous, the water supply can also be increased, and from this stage till the spikes are removed the plants must never be permitted to suffer

from lack of moisture at the base. As the foliage grows, additional stage room must be given and the plants kept about a foot from the roof glass. Plenty of light is necessary, short of scorching the leaves; but blinds made of thin canvas will be required for a few hours each day when the weather is bright and hot. Ventilation is a most important factor in the successful culture of Calanthes, for they refuse to be healthy in a close, stuffy atmosphere; but air must be admitted cautiously to prevent cold draughts passing over the plants. Spraying overhead is not recommended, but the stages and floor should be damped two or three times each day throughout the growing period. Some growers advocate liquid manure, but personally I do not advise its use. If, however, anyone wishes to experiment with a few examples, it ought not to be applied till the new bulb is formed.

When growth is near completion, the foliage will begin to show signs of decay at the tips, and water will be required in slightly smaller quantities, while the atmosphere may be less moist, and a little more top ventilation will help to consolidate the bulbs. The flower-spikes will now soon appear, and their life will be prolonged if they are arranged in a dry house where the temperature is about 60° Fahr. when fully expanded. Directly the scapes are cut, the bulbs (still left in their pots) may be stored on a dry shelf till the spring. No water is needed, and the temperature ought not to fall below 55° Fahr.

Selection of Varieties.—C. Veitchii is one of the most popular in cultivation, the flowers being a rich rose colour. The varieties of C. vestita, such as luteo-oculata and rubro-oculata, are very pleasing, while for a later-blooming kind C. Regnieri should be chosen. C. Harrisii is a beautiful pure white variety, while C. Bryan, C. Bella and C. William Murray are also desirable subjects. SENTINEL.

CINERARIA BEAUTY OF CAMBRIDGE.

THIS attractive and useful greenhouse plant was raised some years ago by Mr. R. I. Lynch, M.A., of the Botanic Gardens, Cambridge, by crossing Cineraria Heritieri with a white form of the ordinary garden Cineraria, and is quite intermediate between the two parents. The light, graceful flowers are white with a violet centre, some of the floret rays being slightly tinged with blue, making it a very desirable plant. It is readily increased by means of cuttings, and if given the same treatment as the ordinary garden Cineraria, good plants can be grown in 5-inch pots, equally as useful for room decoration as for the greenhouse. A plant identical to the above was exhibited some time back under the name of C. hybrida, said to be a cross between C. cruenta and Senecio Tussalaginis. Undoubtedly there must have been some mistake in the names of the parents, for it is quite evident such a cross could not give the same result as C. Heritieri crossed with a white form of the ordinary garden Cineraria, which are certainly the parents of C. Beauty of Cambridge.

As already stated, this is a charming and useful plant, and one that ought to be more widely known. In common with other Cinerarias it should be grown in quite a cool house, and have an abundance of fresh air at all times. Cold-frame treatment is best for the plants during the summer, where they must be shaded from brilliant sunshine. F. G. PRESTON.

THE ROSE GARDEN.

SOME OF THE NEWER HYBRID TEA ROSES.

(*Continued from page 72.*)

Rayon d'Or (Pernet-Ducher, 1910).—This Rose can fairly be termed unique, raised from Mme. Melanie Soupert crossed with Soleil d'Or. It created a great sensation when first exhibited, and its fame spread to England long before we saw flowers of it. When exhibited by Dr. Waddell for M. Pernet-Ducher at the Royal Botanic Show in 1910, when it was awarded the gold medal, it attracted all who saw it by reason of its colouring. Like all Roses that are at all out of the common, its first year found it suffering very much from over-production, and the plants that reached us were surely the smallest that were ever flattered by the name of plant. I was fairly fortunate, but I saw a batch that it would have been difficult to find any wood on bigger than an ordinary safety match. The result was that we had to wait another year before any decent flowers or plants could be obtained, and it was only in the summer of 1912 that the Rose made its way into most of our exhibitions. It is a vigorous grower, of fairly branching habit, rather apt to send up one strong shoot that absorbs all the strength of the plant. Excellent foliage, of bright bronze green colour, that seems quite mildew-proof. I saw no sign of mildew on any of my plants last season, when I suppose mildew generally was as bad as it is possible to be, and that is saying a good deal. The great feature of the flower lies in its wonderful colour; it is without question the deepest yellow Rose we have, and the colour lasts; but it is, to my mind, better in the garden than in the house, the colour being a little crude for decoration; and another point that rather detracts from its use as a decorative Rose on the table is that its thorns are terrible. It is a great break from the hybridist's point of view, and its colour and robust constitution have no doubt caused it to be freely used as a parent, so that we can reasonably look forward to a Rayon d'Or without thorns, or perhaps I had better say with fewer thorns. It is free-flowering, and the flowers are not injured by rain; a bed of it makes a fine splash of colour when in full flower.

Rose du Barri (B. R. Cant and Sons, 1911).—The name fairly describes the colour of this Rose, which makes a good May bedder. Fully expanded, the flowers remind one of a Shirley Poppy. It is very free-flowering and fragrant, and produces a large number of buds; these should be thinued to three or five, otherwise the flowers will be small. Although a Rose of recent introduction, the raisers are able to offer it at normal prices—I believe 1s. 6d. a plant. One spray makes a very effective ornament in a vase, with its centre flower fully out and surrounded by three or four buds in various stages.

CINERARIA BEAUTY OF CAMBRIDGE, A GARDEN HYBRID THAT IS USEFUL FOR THE GREENHOUSE.

Rose Queen (The E. G. Hill Company, 1911).—This is a free-flowering garden Rose of American introduction, and no doubt very useful under glass. Mr. Gurney Hill, when over for the "International," told me it was particularly free-flowering; whether it will prove so out of doors with us I cannot say, but that was its characteristic under glass. It is deep pink or full rose in colour, of good habit, but not particularly distinct. A pink Rose has to be particularly good—for example, Miss Cynthia Forde—if it is to take a place in the ranks of pink Roses.

Reine Mere d'Italie (Bernaix, 1911).—My solitary plant of this Rose gave me some excellent flowers last summer. It is a good yellow, of an ochre shade, very free-flowering, of fair size, and generally satisfactory.

Senateur Mascurand (Pernet-Ducher, 1910).—This is a fine Rose, of good shape and substance, but its colour is variable. Personally, I do not

object to a Rose on this ground, but it, of course, would not do to plant it in a bed forming part of a colour-scheme unless it is used to shade from a yellow into a white.

Souvenir de Gustave Prat (Pernet-Ducher, 1910).—A Rose with similar characteristics to the last named, which latter, however, I prefer. The buds of this Rose are possibly a trifle longer, but with me the other Rose was the better grower and certainly more free-flowering. I do not think both are wanted.

Sunburst (Pernet-Ducher, 1912).—A Rose that has caused much controversy. Under glass there can be no two questions, I think, of its beauty; out of doors it behaves, apparently, in some gardens indifferently, in others well. I think position has something to do with the result. It does not like full sun, and in such a position loses its colour very quickly. My plants get no sun till late in the afternoon, and I had some wonderful coloured flowers in consequence; with me it was quite satisfactory. Here, again, the over-production question comes in, and I think we must wait before passing a verdict. Every eye was propagated from last year and the year before, with the inevitable result. We were told at the "International" of a method of pruning, or, rather, stopping, akin to that which the Chrysanthemum-grower practises—the leading shoot not being allowed to flower, but stopped at two eyes, both of which would then produce deep-coloured flowers. Two groups of plants were exhibited, the first after the normal pruning being allowed to flower and showing blooms white edged if not quite white throughout, the second, stopped in the manner suggested, showing deep-coloured flowers. It is vigorous and of Rose carries few thorns, and its beauty, both for good branching habit. Unlike Rayon d'Or, this inside decoration and garden purposes, is unquestioned if flowers that will hold their deep cadmium yellow colour are produced.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

COLOURED PLATE.

PLATE 1465.

TWO NEW SWEET PEAS.

THE two Sweet Peas shown in the accompanying coloured plate have much to commend them to the notice of those particularly interested in these flowers. In these days, when so many so-called novelties so closely resemble older sorts, it is a relief to get new ones that are distinct, which the varieties depicted in the coloured plate certainly are. In Muriel Quick we have one of the beautiful veined Sweet Peas, of which the grandiflora or unwaved variety Helen Pierce was the forerunner. Ever since it was introduced raisers have been endeavouring to secure it in a waved form, and Muriel Quick is the nearest and most pleasing approach to it that we have seen. The other variety, Mrs. D. Denholm Fraser, is a very striking Sweet Pea, its large, bold flowers, with their vigorous splashes of bright orange, making a gay picture in the garden and a fine addition to an exhibit in the show tent. It is a counterpart of the beautiful Mrs. W. J. Unwin, except in the colour of the flakes, which is, of course, quite distinct. Both Muriel Quick and Mrs. D. Denholm Fraser were raised by Mr. W. J. Unwin of Histon, Cambs, to whom we are indebted for the flowers from which the coloured plate was prepared.

THE FLOWER GARDEN.

KNIPHOFIAS, OR TORCH LILIES.

KNIPHOFIAS, or Tritomas, to use an older generic name which still clings to them, are valuable hardy perennials for summer and autumn flowering. Several popular names, such as Flame Flower, Red-hot Poker and Torch Lily, have been fittingly applied to them. No garden of any size can be considered complete without the rich, warm colours of their flowers. The genus Kniphofia contains some forty species, chiefly natives of South Africa. Comparatively few of these, however, are grown to any extent in gardens, as for general culture and beauty the species are surpassed by the numerous hybrids and garden varieties raised in this country and on the Continent. Though generally looked upon as hardy plants, in cold districts and exposed positions the precaution of protecting them with coal-ashes, leaves, or Bracken in winter is desirable, for it must be borne in mind that they grow wild in a country warmer than this.

A LARGE BED OF TORCH LILIES. WHEN MASSED IN THIS WAY THESE PLANTS CREATE A DISTINCTIVE NOTE IN THE GARDEN.

Soil and Situation. — Kniphofias will grow in the cultivated soil of most gardens, provided it is well drained. For preference a light sandy, rather than a heavy, loam should be provided. An annual mulching of well-rotted manure in June is beneficial. Propagation may be effected by division of the clumps, preferably during March, or in autumn if more convenient. Kniphofias may also be raised from seeds sown under glass during February and March, or outdoors in April. When established and flourishing Kniphofias should be left undisturbed, merely pricking over the surface soil between the plants in spring, and keeping the ground at other times free from weeds. The plants delight in abundant supplies of water in summer and autumn. It is often recommended to plant Kniphofias by the lakeside. The plants, however, must be located a sufficient distance up the slope of the bank, so that the water does not reach the roots in winter. In such a position few herbaceous plants can be so effectively employed planted in bold groups or masses. Most readers will be aware of the value of Kniphofias for the herbaceous or mixed borders, and they are also particularly effective for beds in the pleasure grounds. Even when not in flower the clumps or tufts of broad and long grass-like leaves are ornamental.

A Good Selection.—K. aloides, or Tritoma Uvaria, is the old Red-hot Poker of the cottage garden. There are several forms worthy of cultivation with flower-spikes 4 feet to 6 feet high, sometimes even taller than this—glaucescens, yellow, tipped with orange scarlet; grandiflora, scarlet and yellow, a grand variety producing tall, vigorous spikes of flower in autumn; maxima, scarlet and orange; nobilis, one of the most vigorous and hardy varieties, flowers orange red; and Saundersii, a very free-flowering variety with orange scarlet flowers. K. aloides is one of the parents of most of the strong-growing hybrids. The following list

Two new Sweet Peas—
Blue: Muriel Quick.
Red Flaked: Mrs. D. Denholm Frazer.

Hudson & Kearns, Ltd., Printers, London, S.E.

comprises a selection of the best: Chloris, apricot yellow; corallina, coral red; Lachesis, golden yellow; Obelisk, rich yellow; Pfitzeri, yellow and scarlet, a strong grower; R. Wilson Ker, coral red, a vigorous plant; Triumph, orange yellow; John Benary, dark orange red; Rufus, yellow, shaded crimson; and Victor Lemoine, coral red.

The Small-flowered Torch Lilies.—As a contrast to the noble and vigorous varieties and hybrids of K. aloides we have the miniature or small-flowered Torch Lilies. They require more attention and care than their stronger brethren, or during a severe winter many losses among them will have to be recorded. These miniature Kniphofias succeed best in light, sandy soil and warm, sunny positions. They are charming for the front of the herbaceous border, the mixed border, and may also worthily find a place in the rock garden. In some gardens, to guard against loss the plants are carefully lifted and heeled in light, sandy soil in a sheltered spot, protecting, if necessary, still further till spring. The following are the most important miniature species: K. breviflora, yellow, producing slender spikes 2 feet to 3 feet high, a rather rare South African species; K. Macowanii, soft coral red, spikes 2 feet high, valuable in the rock garden, also from South Africa; K. Nelsonii, orange red, a charming free-flowering plant of considerable value grown in pots for the cold greenhouse, a native of the Orange River Colony; K. pauciflora, grows about one and a-half feet high, yellow flowers, borne on slender spikes, flowers produced over a long season, a native of Natal; and K. rufa, yellow and red, may be truly described as a miniature K. aloides in both foliage and flowers, the hardiest and most free in growth of the small-flowered species, free and continuous in flower, a native of the Orange River Colony.

With these species to work upon, hybridists have given us several useful small-flowered hybrids during recent years. One of these, Goldelse (citron yellow), has received the award of merit of the Royal Horticultural Society. Torchlight is a companion plant, with orange scarlet flowers; Lemon Queen, lemon yellow, a distinct plant, with spikes about two feet high; Solfaterre, yellow, tipped with green.

In addition to their value in the outdoor garden, the miniature-flowered Kniphofias may, if desired, be very successfully cultivated as pot plants for the cold greenhouse. For cutting, the flower-spikes are for many purposes more valuable than the vigorous kinds, lending themselves more readily to light and graceful arrangements.

THE JAPANESE ANEMONE.

THIS is beyond doubt one of the most popular garden flowers of to-day. For massing in large beds by the water-side, on the outskirts of the shrubbery, or in the herbaceous border it has few equals. Moreover, it is grand for cutting, and when grown in large masses the pink and white flowers may be cut in armfuls during the autumn. It is a plant of easy cultivation, and it is just as well to place it both in sunny and shady positions to prolong the flowering season. No garden is complete without this charming Anemone. It may be planted now in deep, rich and well-prepared soil, after which it will need little or no further attention. In the accompanying illustration is seen an effective grouping of the variety Queen Charlotte of a soft rosy hue, and one of the most pleasing in cultivation.

AN EFFECTIVE METHOD OF GROUPING THE BEAUTIFUL JAPANESE ANEMONE QUEEN CHARLOTTE.

LILIES: A CAUSERIE.

(*Continued from page 71.*)

ANOTHER Lily that has, so far, reciprocated my affection is the golden and fragrant L. monadelphum, which has annually returned my admiration with Daffodil yellow bells and whiffs of blended essence of Hyacinth and Poet's Narcissus. The scent is strong and heavy, even for a Lily, and is almost too much of a good thing early in the evening, when this Lily seems to concentrate its efforts on advertising its presence, which I take to be a sign that in its own country it lays itself out for the visits of crepuscular insects, probably some large hawk-moths that fly at early dusk, when, of course, pale lemon yellow and strong scent would prove good guides for these hungry visitors, who come only with the idea of sipping honey, but are welcome to the Lily as its best-appointed means for cross-fertilisation. It is said to be one of the best Lilies for permanent planting, hating disturbance and improving in vigour after its third year's tenancy. That is one of the characteristics I most desire in a plant. I should like to fill a garden with plants whose only needs after a good planting are spring and autumn cleanings of the surface of their bed, and for which patience is the best manure.

I have a feeling, which I cannot exactly trace to book-reading or garden observation, that monadelphum prefers a cool, loamy soil, so I should always choose a position for it where shade lies for some portion of the day. Once one gets such a conception of the right position for a plant, it is hard to shake it off, and sometimes noticing successful cultivation in the gardens of others under totally different conditions sets one to look out for climatic or geological differences rather than to account for it by questioning the truth of one's preconceived notions. Still, it is a fact that the best gardeners acquire a knowledge of the geography of their own gardens which is often of the greatest service in choosing a suitable home for a new subject, and yet can hardly be explained in words.

So I have a rooted idea that this fine Lily is a fitting companion for herbaceous Pæonies—the same site should suit both. The poor thing has suffered terribly at the hands of its botanical sponsors, and it laments, moans and groans (the best opposites to rejoicing that I can think of at the moment) in the synonyms Loddigesianum, szovitzianum and Ledebourii, and I daresay, like many of the Ermyntrudes and Adolphuses, who wish they had been named Jane or Thomas, would prefer to be called by its shortest synonym, colchicum. The plain yellow forms are most to my liking; but they vary so endlessly in the matter of spotting that, unless you can choose your plants when in flower, it is impossible to predict what you may get from lemon yellow to deep chrome, any of which may be plain or speckled.

L. Henryi surprised me more than any other Lily I have planted here. I purchased a bulb when it was new and rare, and also expensive. It was a small one, to match my purse, and I was not greatly in love with its weak, bending-over make of stem and the one or two blossoms it gave me during its first three years here. As it bent over so much, it was mostly the recurved portion of the segments that I saw, and in the choice southern border I gave to so rare a novelty they scorched rather badly. Then I thought it was about good enough to grow on the edge of a grouping of Hemerocallis at the corner of a border in a lawn, and a couple of seasons after the move it shot up a 6-foot stem, still with the arching habit, of course, and to keep it clear of the passing mowing-machine it was staked at the height of 4 feet, and when the remaining 2 feet leant over the lawn, bearing over a dozen great flowers and buds at eye-level, I wanted more Henryis for that corner. They came, and in 1911 were a fine sight, taller than ever, about a dozen stems, and all staked for only half their height, so that they bent over naturally with their wealth of blooms. The great heat of that summer induced them to set seed in a most wholehearted way, and I greedily left too many pods on and, I believe, rather exhausted the plants, so that this season they were not so high or well budded as usual. But the unusual drought of the whole of April and half of May must have some blame for their loss of inches, and I have a promising younger generation of seedlings from the crop to make up for lack of blooms this year, for, sown as soon as gathered, nearly every seed germinated in the spring. This season's autumn manœuvres necessitated the lifting of this Hemerocallis group, also the Lilies, and I am rather anxious about the result; so herewith I touch wood in saying most likely I have ruined them, it may be for years and it may be for ever.

Waltham Cross. E. A. BOWLES.

(*To be continued.*)

SEASONABLE NOTES ON CARNATIONS.

Carnations in Frames.—Thousands of rooted layers are potted in the late summer and autumn with a view to wintering them in frames, and the system must be commended with the choicest varieties, and more particularly so in districts where the soil is cold and wet. The precaution is always a good one, and never more so than in the winter through which we are now passing. The wet was incessant in many places, and where the drainage was in the slightest degree defective, many roots perished in the cold ground. In a frame the plants are completely under the control of the cultivator, and it is rare to lose more than an odd one or two where reasonable care is exercised in management. It is impossible to admit too much fresh air to the plants; but torrential rains, snows and severe frosts ought to be excluded. The advance should be slow and strong, so that when the time arrives for putting the plants in the garden, the task can be accomplished without the slightest check being given.

THE ROSE-FLOWERED MOUNTAIN CLEMATIS (C. MONTANA RUBENS) GROWING OVER RUSTIC POLES.

TREES AND SHRUBS.

CLEMATIS MONTANA AND ITS VARIETIES.

A QUICK-GROWING climber and a general favourite wherever grown, the type of this species has long been in cultivation, and is known in the South and West of England as a most effective and floriferous plant for training on a balcony, wall, fence, or other suitable position where it can display its wealth of pure white flowers, which are produced in early summer. It delights in a hot, sunny position on the wall of a house, facing due south for preference, as in such a position the growths receive a good ripening and never fail to produce an abundance of flowers. These are produced on the ripened wood of the previous year's growth, so that any pruning which may be necessary should be done immediately after the flowering period is over. The plant is not at all fastidious as to soil, but prefers one which is light and open and containing an abundance of lime.

The advent of a beautiful rose-coloured variety named rubens, which was introduced by Messrs. J. Veitch and Sons through their collector Mr. E. H. Wilson some eight or nine years ago, was hailed with delight by lovers of this hardy climber, and was awarded a first-class certificate on May 23, 1905, by the Royal Horticultural Society. The plant is of exceptional beauty, and has the merit of flowering freely when only a foot or so high; it further has the additional advantage of not requiring a background to show it to advantage as in the case of the white flowers of the type. For this reason it is most suitable for training over an old tree stump or for furnishing an old or dilapidated tree. Another pleasing way in which it may be used to advantage is that depicted in the accompanying illustration. Several stout branches with their laterals left about a foot long are sunk in a small bed and form a rough or irregular pyramid in outline. At the base of these several plants were planted, and the photograph was taken of the result the second season after. A glance at the illustration will show how rapid is the growth in the first few years, and what a really valuable and effective plant this new variety is. The bulk of the flowers are produced in late May and June, and odd flowers continue to develop all the summer; they are from 1½ inches to 2 inches in diameter.

Another new variety from the same source is Wilsonii, with large pure white flowers, sometimes as much as 3 inches in diameter. It has the additional merit of flowering in August, a period when flowering climbers are scarce. Both of these new varieties are excellent and can be recommended with confidence. C. P. RAFFILL.

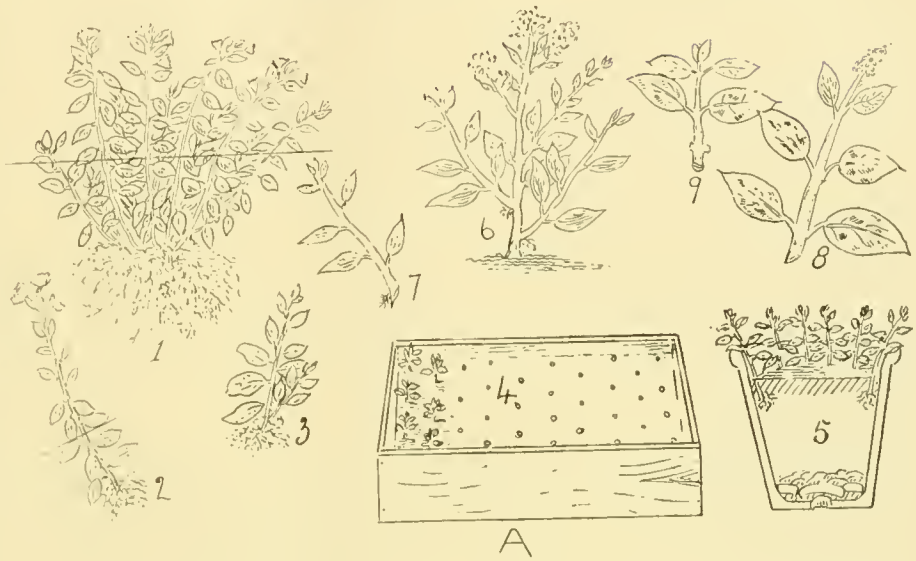
GARDENING FOR BEGINNERS.

HOW TO PROPAGATE BEDDING PLANTS IN SPRING.

OWING to a shortage of cuttings in the autumn, to losses during the winter, and other causes, many amateur gardeners find, at the present time, that they will not have enough bedding plants to properly fill their borders in the summer. It is not too late to supplement the stock of plants raised from cuttings inserted last autumn. Indeed, many spring-struck cuttings grow freely and make very nice plants, which come in useful for front lines of beds and small borders.

How to Root Cuttings Quickly.—The wood of all cuttings inserted at this season is much softer than that made usually at the end of the summer. Roots are emitted from soft wood if this is earlier subjected to a bottom-heat and a fair amount of moisture. The cultivator must, therefore, endeavour to build a hot-bed, or arrange a frame over some hot-water pipes. Of course, the cuttings may be rooted without any bottom-heat, but more time will be necessary, and probably there will be a higher percentage of losses.

The Compost and Cutting Receptacles.—It will be advisable to use a lighter compost now than in the autumn, also one that is much richer, as in the case of many kinds of plants they may remain in the cutting pots until planting-out time comes, though this course is not advisable. Loam and leaf-soil in equal parts, with plenty of sand added and a 7-inch potful of rotted manure to a bushel of the combined portions, will do very well. The manure should be placed in the bottom of the pots, pans or boxes, and not mixed with the other ingredients. The smaller cuttings should be inserted in large pots, pans or boxes, and the larger cuttings singly in small pots. For example, Lobelia may be put in the former and Zonal Pelargoniums in the latter. The Zonal Pelargoniums will not require any shift until turned out for bedding purposes, and the rotted manure in the bottom of the pot will prove very beneficial.



CUTTINGS MAY BE TAKEN FROM BEDDING PLANTS IN SPRING WHERE STOCK IS SHORT.

How to Improve Autumn-Struck Plants.—Such kinds as Zonal Pelargoniums, Fuchsias and Coleuses often grow very tall by the time spring comes, and "topping" will improve them and at the same time provide quite a number of suitable cuttings for spring propagation. The tops, denuded of all flower-buds, should be put in forthwith. The cut-back plants will branch out and become nice, bushy specimens, satisfactorily filling more space in the flower-beds when put there.

Fig. A.—No. 1 shows an old Lobelia plant which should be cut down as denoted by the dark cross-line; then more young, flowerless shoots will grow. No. 2 is not a good slip for a cutting, but if cut down it may be used. No. 3 is the right kind to put in, and may be dibbled in boxes or pots as shown at Nos. 4 and 5. The Alternanthera is much used in front lines and in designs in small beds. Old plants quickly run to flower and are useless, but if side shoots are selected as shown at Nos. 6 and 7, a fine stock of young plants will soon be obtained. No. 8 shows a bad shoot for a cutting of a Coleus plant, and No. 9 an ideal cutting.

Fig. B.—No. 1 shows a Zonal Pelargonium grown tall. This kind of plant should be topped as shown at No. 2. No. 3 depicts the top prepared for insertion as a cutting; No. 4, the wrong way to cut off the stem when making the cutting. No. 5 shows how to take cuttings from Fuchsias, and No. 6 a cutting prepared. No. 7 depicts cuttings in boxes; No. 8, cuttings in pots on side shelves; and No. 9, cuttings in pots on high shelves under the roof glass. They will all do well in such positions, also in warm frames. G. G.

BEDDING PELARGONIUMS, OR GERANIUMS, ARE OFTEN BEST WHEN THEIR TOPS ARE REMOVED IN SPRING. THESE TOPS MAY BE USED AS CUTTINGS.

THE BRIDAL WREATH.

THE white Francoa (Bridal Wreath) is a well-known greenhouse plant. The light pink species, F. appendiculata, is not so often met with in gardens. The latter makes an attractive pot plant, and is also suitable for planting outdoors in sheltered, well-drained situations. Now is the time to sow seed of the Francoas. Use clean, well-drained pots and light, sandy soil. Sow the seed thinly, and place the pots in the warm corner of the greenhouse. When the seedlings appear, place the pots in full light. Pot off singly when large enough to handle, and grow on in good sandy loam and leaf-mould. Young plants of F. appendiculata may be planted out during the summer. Choose specially-drained sites for the plants in warm corners of the rock garden, or plant at the foot of south walls. The writer has recently seen a strong clump growing on a bank, which is sheltered by overhanging trees. COLIN RUSE.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Chrysanthemums.—No class of plant is more useful than these for beds or borders during the early autumn, and the present is a very suitable time for propagation. If a few stock plants were lifted after blooming last autumn and placed in a cold frame, good cuttings should be procurable in plenty, which will root readily in a very slightly-heated frame. They are easily handled if placed in shallow boxes, from which they may be potted off into 3-inch pots when well rooted, and this one shift should suffice, as they may be planted out during April.

Border Carnations.—In many districts these have to be wintered in frames; but, providing the ground has been well prepared for them, there is no reason now why they should not be planted out during fine dry weather. A dressing of new loam and wood-ashes to the beds or borders will greatly facilitate their growth. Firm planting is essential, and a dusting of soot will help to keep off wireworm and slugs.

Dahlias.—Generally speaking, I look upon young plants of Dahlias as being more satisfactory than old ones, provided they are propagated early and are good strong plants when put out. With this object in view a few tubers should be placed in heat, when they will soon throw up cuttings, which should be taken off when from 3 inches to 4 inches high. These root readily in a mixture of leaf-soil and sand. Too high a temperature is not necessary, as it induces a very soft growth, and this is detrimental.

Flower-Beds.—Now that most of the bulbs are appearing above the soil, it is advisable to go over all the beds and loosen the surface either with the fingers or a small hand drag, taking care not to injure the young growths of the bulbs or the roots of the covering plants. Any losses of these latter should be made good at once, so that the beds have a regular appearance when in bloom, and, needless to add, this work is best done when the surface of the soil is comparatively dry.

Plants Under Glass.

Chrysanthemums (Single and Decorative).—The present is probably as good a time as any for the propagation of these, and the same system as advised for outdoor varieties will answer well. When propagating, do not overlook the fact that good late varieties are specially useful, and extra attention should be paid to this batch, as during December and January there is often a shortage of good long-stemmed flowers, which a good batch of late Chrysanthemums will fill up nicely.

Zonal Pelargoniums.—A batch of cuttings put in at this date makes good plants for autumn and winter blooming. They will root readily in any house where there is a little warmth, and for preference they should be inserted singly in 2½-inch pots.

Ivy-Leaved Pelargoniums.—Though not used as much now for cut flowers during the winter as formerly, they nevertheless are most useful, especially where there is much table decoration, the variety Mme. Crousse being very pretty for this purpose. Propagate now and stop a few times during the summer, and good bushy plants will be the result.

Dielytra spectabilis, if introduced into a little heat about this date, will throw up strongly, the somewhat glaucous foliage and pendulous spikes of flower making it a first-rate plant for house or conservatory decoration.

Perpetual-Flowering Carnations.—Pot off the young plants into 3-inch pots as soon as nicely rooted, giving them a position near the glass with a temperature of about 50°. Flowering plants, now the days are getting longer, should be given a slight top-dressing of soil and bone-meal, this latter being recognised as one of the best manures for Carnations.

Fruits Under Glass.

Melons.—These should be planted out as soon as fit in a house where there is a good command of heat, 65° to 70° at night being a suitable temperature. Where pipes run under the bed, there will be no need to use manure for bottom-heat; but, failing pipes, the manure is very useful to give the early plants a good start. A slate should be placed beneath each plant to prevent the roots going directly down into the manure, or too rank a growth will result. Small heaps of soil are the best to plant in, and these may be added to whenever necessary or as the roots show thickly on the surface. Further sowings should be made for succession.

Cucumbers.—These also should be planted, using somewhat lighter and richer soil for the purpose than for Melons. Keep the houses of both the above well damped down and the foliage sprayed over on all bright days; but during cold weather a certain amount of discretion must be used, as a drop in the temperature at night and too much moisture may result in the appearance of mildew.

Tomatoes.—Young plants should be potted on as they require it, autumn sown or struck plants being probably large enough for their fruiting pots, which should not be too large if very early crops are desired. Seedling plants should be kept near the glass, with a temperature of 55° to 60°, making further sowings as necessary to keep up the supply.

Strawberries.—Early batches are now pushing out their trusses of bloom, and these as they expand must be carefully fertilised with rabbits' tails to ensure a good set. If the blooms are not already expanding, it might be advisable to fumigate the plants to keep down fly, and, as syringings should not be so frequent while they are in bloom, a spraying under and over the foliage with sulphur and soft soap will help to keep spider in abeyance.

The Kitchen Garden.

Onions.—On light soils the main crop of Onions should be got in, selecting the varieties that are noted for good keeping qualities, though by sowing early some of the large-bulbed varieties will mature quite well. On heavy soils it might be advisable to delay sowing a little longer, but, providing the weather is dry and the soil in a good workable condition, there is no reason to delay sowing beyond the end of the month.

Parsnips also may be sown now, the same conditions applying as above. In each instance the ground should be thoroughly well worked and a good dressing of soot applied previous to sowing.

Hardy Fruits.

Currants (Red and White).—In last week's calendar I spoke of pruning Gooseberries and dusting with lime to keep off birds. This applies equally well to Red and White Currants, and I have certainly found it more effective than stretching cotton over the bushes, and it is quicker to put on. There is no need to stint the quantity of lime, as a little falling on the soil will prove very beneficial to the bushes.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Herbaceous Plants.—If the weather is open and the ground in suitable condition, any planting to be done may be proceeded with. Clumps that have grown too large may be reduced, some good, fresh soil worked in where the plants grew and small pieces taken from the outside of the clump planted. The bed or border should also receive a top-dressing of old hot-bed manure or other light, rich material.

Dahlias.—Whenever cuttings 3 inches in length are available, they should be taken and inserted in 2½-inch pots, filled with sandy soil, and then plunged in a brisk bottom-heat. If the cuttings are kept sufficiently moist, they do not require to be placed in a propagating-case.

The Rose Garden.

Trellises.—Wire trellises are objected to on two grounds—first, on account of the wire chilling the shoots during frosty weather; and, secondly, and perhaps with greater cause, on account of the wires injuring the shoots by friction. Here we have overcome these objections by covering the wires on the side on which the plants are trained with split 6-feet lengths of Bamboo stakes. The pith is taken out of the Bamboos when they fit nicely on to the wires, to which they are tied with light copper wire. The light lattice-work extension screens are very artistic and easy of manipulation, but they do not last long.

Plants Under Glass.

Caladiums.—These Aroids are highly decorative, either in the stove or in rooms. A portion of the stock may now be started for early work. Place them in a temperature of about 65° and spray twice a day. When fairly started they should be turned out of their pots, the ball reduced, and then potted up into pots two sizes less than those they occupied before, to be potted on in due course. Loam, peat and old hot-bed manure, with a dash each of sand and pounded charcoal, suits them.

Edging Plants.—A good stock of these should be got ready, both for the conservatory and room decoration. Suitable subjects include Fuchsia Golden Fleece, Asparagus Sprengeri, variegated Water Ivy, the variegated form of Vinca major, Lonicera aurea reticulata, Tradescantias in variety, Fuchsia procumbens and Origanum sipyleum.

Calceolarias.—These should now mostly be ready for their final shift, and 7-inch pots are generally used for this shift. They delight in a light, rich, porous soil, and should not be potted too firmly. A cool pit is the best position for them. Beware of green fly, their only enemy.

Chrysanthemums.—Continue to pot off cuttings as soon as they are well rooted. A slight spray in the early afternoon on sunny days will prevent flagging. More care will have to be taken in watering these, as evaporation is now more rapid and plants in small pots suffer quickly unless closely attended to

Cannas.—Many of these have very handsome flowers in shades furnished by few other plants. A batch may now be started, and a vinery at work is a suitable position for them. Spray them daily along with the Vines, and when they have pushed a little the rootstocks should be divided up with the aid of a stout pointed stick and a pruning-knife. Put them in small pots and pot on as necessary.

Fruits Under Glass.

Stopping Vines.—The stopping of Vines is an important operation, and should receive timely attention. It consists, first, in stopping the leading growth of the shoot, and, secondly, stopping the laterals and sub-laterals. The leading shoot is usually stopped at one joint beyond the embryo bunch, but it is unwise to draw a hard-and-fast line. All laterals should be stopped beyond the first joint.

Melons.—Where these are ready for planting, the soil should be placed on the bed a day beforehand. The bed should first be covered with turves grass side downwards. The compost should consist chiefly of good sound loam not broken up too finely. About a sixth part of old Mushroom-bed-manure and a little bone-meal and lime rubbish will make an excellent compost. The plants should be put on little mounds as a preventive of canker. Tie to a stake at once.

The Hardy Fruit Garden.

Trees in Grass.—It has been clearly proved that orchard trees in grass do not yield their best when the grass is allowed to grow up to the stem of the tree. Where such is the case, it is therefore advisable to scarify the ground for a distance of 3 feet from the stem and fork it lightly over, working in a little lime and well-rotted manure.

The Vegetable Garden.

Onions.—If the weather is mild at this season of the year, autumn-sown Onions begin to push, and they will be greatly benefited by a light dressing of nitrate of soda, fowl-manure or soot. The ground should also be stirred with the Dutch hoe. It seems early to sow yet, but if one is going in for spring sowing in the open and one wishes to do one's best to escape the ravages of the Onion fly, do not delay sowing a day after the ground is in working order.

Spinach.—It is the early and late sowings of Spinach which pay. As soon as the ground is in order on a south border, make a sowing. It will do nicely between the lines of the early Peas. I am partial to Round Victoria.

Broccoli.—Go over the plants and remove all decayed leaves, and if the ground is in a fit state, hoe between the rows. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Polypodium irioides pendulum grandiceps.—A distinct and striking Fern of dark olive green colouring from Queensland. As shown, the plant was low-growing—less than a foot high and about the same through—the fronds many times branched and somewhat tasselled at their extremities. From Messrs. H. B. May and Sons, Edmonton.

AWARD OF MERIT.

Crocus chrysanthus E. A. Bowles.—A most beautiful and refined variety, and certainly one of the most desirable we have seen. To the predominant yellow shade of the inner surfaces of the petals there would appear to have been added a small proportion of pale orange buff, the mingling of the twain giving the variety an air of distinction. Externally the flowers are lined or feathered with dark purple. It is obviously a free and profuse bloomer. Exhibited by Messrs. Barr and Sons, Covent Garden, W.C.

NEW ORCHIDS.

There is no lack of novelties in the Orchid world, and some extremely interesting and beautiful forms were shown. Two first-class certificates were granted, viz., to Odontoglossum ardentissimum Ebor, shown by Baron Bruno Schröder, Englefield Green; and Cymbidium Lady Colman Golden Queen, shown by Sir Jeremiah Colman, Bart., Gatton Park.

Awards of merit were made to each of the following: Oncidioda Cooksoniæ, from Messrs. Charlesworth and Co., Hayward's Heath; Odontoglossum armandum, shown by C. J. Phillips, Esq., Sevenoaks; and Cymbidium J. Davis, sent by J. Gurney Fowler, Esq., South Woodford.

The foregoing novelties were shown before the Royal Horticultural Society at the fortnightly meeting held on February 4.

CULTURAL HINTS ON NEW AND RARE PLANTS.

TREES AND SHRUBS.

(*Continued from page* 23.)

Spiræa Henryi.—Several new Spiræas have been introduced from China during the last few years, this white-flowered species being one of the best. In rich, loamy soil it develops quickly and attains a height of 5 feet or 6 feet. No pruning other than an occasional thinning of the branches is required, while it is easily increased by means of cuttings in summer. It is a good plant for a specimen bed or for a group.

Populus lasiocarpa, from China, is a remarkable Poplar, for its leaves are sometimes 1 foot wide, and it has the advantage of red leaf-stalks and midribs. Like most other Poplars, it succeeds best in moist ground, such as is found about the borders of a lake or stream, where the trunk stands clear of the water, but where the roots can take advantage of the generous supply. Cuttings of ripened wood may be rooted during winter.

Rhododendron kamtchaticum, a dwarf-growing plant from Northern Asia, should be given a position where the ground is perpetually moist. Planted on the margin of a bog, in peat and sphagnum, it forms a dense mass 1 inch or 2 inches high. Its habit of spreading by means of underground shoots makes it possible to effect propagation by division of the clumps. Otherwise it may be raised from seeds in the ordinary way.

Pterocarya Paliurus is an interesting new tree from China which may be grown in moist, loamy soil of moderate depth. Its nearest well-known relative is the Caucasian P. caucasica, which is known by its long, pinnate leaves and racemes of winged nuts. The leaves of the new tree are equally ornamental, while the nuts are surrounded by wide, circular wings. Propagation is from seeds or by grafting upon the common species.

Plagianthus Lyallii.—Although this New Zealand shrub was introduced many years ago, it is not generally grown on account of its requirements being imperfectly understood. By planting it in a sunny position, in light, well-drained, loamy soil, it may be expected to grow well and produce its pretty white flowers freely. Cuttings inserted indoors in sandy soil may be rooted, but propagation is more easily accomplished by layering the branches in spring.

Fothergilla major is a North American shrub which is valuable on account of its white flowers in June and its golden foliage in autumn. It thrives in moist peaty soil, and is most successful when planted in a mass. Cuttings of side shoots taken in July and inserted in sandy peat may be rooted in a close, slightly-warmed frame.

Rhus Henryii may be grown towards the back of a shrubbery, or as a specimen plant on a lawn, providing it is furnished with good loamy soil. It is a strong-growing Chinese bush or small tree, and the leaves colour well in autumn. No pruning is necessary.

Liriodendron chinensis is the Chinese counterpart of the North American Tulip Tree. Of vigorous constitution, it grows rapidly in good loamy soil, and there is every reason to suppose that it will attain the same height in this country as its American relative, namely, 80 feet to 100 feet. It appears to thrive quite well when grafted upon L. tulipifera.

(*To be continued.*)

ROSES IN A KENTISH GARDEN.

POSSIBLY the following notes about Roses in a Kentish garden may interest such of your readers as—like the writer—are amateurs. Our so-called summer of last year was harmful to most, if not all, gardens. With me it certainly was an especially bad one so far as my Roses were concerned, for, in addition to unseasonable weather, I was compelled to be absent from my garden from March till June, just the very time when Roses need constant attention. The sorry appearance of their foliage and, indeed, of most of the flowers in autumn was, I fully realise, the unmistakable language in which they reproached me for my neglect. Still, in spite of that neglect, and in spite of unfavourable weather, I have derived much enjoyment from my Roses.

Betty has never done really well with me, but I love her long pointed buds and the delicious fragrance of her full-blown bloom. She seems to whine at being expected to flourish in this part of Kent, but before ousting her I mean to try her in another site, as she is said to bloom right up to Christmas.

Black Prince, though not to be found in the National Rose Society's catalogue, is a good dark crimson Rose that I have known elsewhere to give lovely bloom. He does not seem happy in his lodgings here, and though he has given me some good flowers, he has not done so as frequently as I expected.

Boadicea yields a sweet bloom, but is so very shy. She never will look you full in the face, and a drooping head is, in my opinion, a fatal fault in a Rose.

Camoens is very sweet, very free-flowering, and, indeed, in all respects a very satisfactory Rose with me.

Captain Christy and Captain Hayward both do fairly well with me, but they are not up to the description given of them in catalogues. This may, perhaps, be accounted for by the fact that I bought my plants of both at an auction, a supposition strongly supported by the fact that I have had some good blooms from some half-standards of Captain Hayward I only planted from Messrs. Ben Cant's nurseries last year.

Celine Forestier.—I advert to this Rose, albeit a climber, because for five years I have been trying hard to get her to flourish on a corner post in my verandah, under almost hopeless conditions, facing west, getting but little sun and a lot of moisture. She resented being placed in such a gloomy corner, and refused to give me any bloom from the long, lanky, almost leafless stem which more or less entwined itself along the iron arch to its left. However, constant care—I might almost say devotion—has at length softened her resentful spirit, and last autumn I was rejoiced to find a fine healthy offshoot springing up from the junction with the stock, giving promise of better things to come. I hate to be defeated, even by a Rose; that is, I hate being unable to get a Rose to thrive where I particularly want one to grow, and really, for an amateur, I have been wonderfully successful, for I have made Roses grow and bloom where I have been assured by a real rosarian friend it was quite hopeless to expect them to grow. Some time ago I remember showing this expert friend of mine a Marie Bret and a Carmine Pillar in good bloom where he had said they would never thrive. He pointed to his walking-stick and said, "Well, I believe you would make this stick grow if you tried." But I must not boast, for I am sadly aware of the fact that I have had some failures. Is it not the best General who has the fewest?

Possibly my success at times is due to the facts that I am an amateur and an ignorant but determined old man. Still, I am morally convinced, from my limited experience, that determination, coupled with agreeable nourishment and constant loving care, will work wonders with Roses, as with children. For Roses are like children. Let them but feel that you really love them and want them to please you, and I firmly believe that nine times out of ten they will succumb to your affection and do their best to reward your love and care of them. In daring to write thus I know I am opposing one of our greatest rosarians, whose intense love of the Queen of all Flowers induced him to censure so pungently those who "have sent Her Majesty by lobbies and back stairs into dismal chambers." But I write not to rosarians, but to amateurs, and, with all due deference, I still maintain we are at times compelled to make the best of our circumstances and conditions, and to call upon our children to yield us loving compliance in our endeavour to do so. Since writing the above I have derived much comfort from a perusal of Mr. Walter C. Clark's interesting "Experiences of Growing Roses Under Pines" in the National Rose Society's Annual for last year.

Charles Lefebvre.—This popular favourite is as kind to me as I try to be to him. And, oh! what a soft velvety crimson, sweet-smelling flower he gives me!

Chateau de Clos Vougeot.—In 1911 this Rose gave me some truly magnificent blooms, soft and velvety, and of the deepest red I have seen in any Rose. It continued to bloom almost without a break throughout the summer, giving me the first flower on June 1, and I find by my note-book it was still in bloom on November 9. It is a very sweet Rose.

Claudius.—I had my first bloom from this new Rose on June 15 in 1911, and a deliciously sweet one it was. On July 11 I recorded another thus, "A real gem and so sweet." I had a few fairly good blooms in 1912, but not with the erect head of the previous year, due, doubtless, to the heavy rains.

Commandant Felix Faure does well with me, holds his head well up and is very sweet. I got my plants from Messrs. Cocker and Sons of Aberdeen. I am rather inclined to think it is not a bad plan to procure one's Roses from a colder climate than that of one's own garden, and experience rather supports the idea.

Comtesse du Cayla.—I fell in love with this Rose from the gorgeous colour of one worn by a young lady in a railway carriage, and procured it on the recommendation of the young lady's father, to whom I was forced to introduce myself. It is indeed a Rose of beauteous colouring, but is better in a lady's dress than in a garden, as it droops its head despairingly. However, she is a continuous bloomer.

Corallina.—A Rose that smells sweetly and is superb in the bud stage. A good bloomer in autumn and does well with me. The colour is very attractive.

Countess of Annesley.—A deliciously sweet Rose, but has not done well where I planted her, so I played "post office" with her and several other Roses last autumn.

Countess of Caledon, Countess of Oxford, David Harum and Dean Hole.—None of these Roses have done as well with me as I expected, and, as they are sulkier than ever, I shall do with them as with my Countess of Annesley.

Dr. Andry and Dr. Grill.—Both sweet, good Roses and very satisfactory in my garden. Hardy and free-flowering.

Edward Mawley.—I hardly like to say what I feel about this great-boomed Rose. I paid half-a-guinea for one plant in a pot, and, as far as my experience goes, I would gladly exchange it for any sweet-smelling Rose that grows.

Enchantress.—Even during the neglected and most unfavourable season of last year, I have had quite a profusion of bloom from this creamy white Tea.

Eugenie Lamesch.—A charming little dwarf Rose that thrives splendidly with me and gives me constant clusters of orange yellow blooms, which are always very acceptable.

Fisher Holmes.—A well-known, good Rose that has done splendidly with me. I have two on my espalier that have been a constant delight to me and my friends as we walk along it, as it is good to look at, very sweet, and lasts well when plucked.

G. C. Waud.—Described in the National Rose Society's catalogue as "a vigorous dwarf Rose of most distinct shade of colour." Has done, so far, fairly well with me. Its perfume is deliciously sweet, and it promises to be all that one wants.

G. Nabonnand.—A wholly satisfactory Rose with me, except that he is inclined to hang his head a bit. Gave me his first bloom in June, and bloomed well again in autumn.

General Jacqueminot is very sweet, and his large velvety bloom is very grateful to the eye.

General Schablikine.—I had this Rose sent to me from P. Nabonnand with a great flourish of trumpets, but in my opinion he is "not in it" with his rival General, and if his tactics do not improve he shall certainly "be called upon to retire." G. B. W.

(To be continued.)

BOOKS.

Herbals.*—At the present moment there is in a bookshop in Liverpool an "immaculate" copy, as the dealers express it, of one of the most beautiful herbals in existence, viz., the "De Historia Stirpium" of Leonhard Fuchs, published in 1542. I have paid that shop more than one visit, just to have the pleasure of turning over its pages, for, as Mrs. Arber says, the zenith of book illustration in the herbal is perhaps reached in this exquisite volume. How I should like to one day carry it home! Alas! its price is prohibitive. I would have to produce from £35 to £38 to be able to do so. All old gardening works have appreciated very much in value of late years, and few nowadays can afford to possess themselves of the gems. However, as wise people know that half a loaf is better than no bread, so on the same principle they will find "Herbals" is better than *no* Fuchs, *no* Brunfels and *no* Crispian van de Passe. It is full of excellent reproductions of some of the most characteristic illustrations in these and other herbals of the years between 1470 and 1670, which is the period covered by Mrs. Arber in her book. I have carefully compared a certain number with the originals and, taking these as samples, I can truly say that they are most faithful reproductions, and that the authoress has been very fortunate in her photographer, Mr. W. Tams of Cambridge. There are no fewer than twenty-one whole-page plates and 113 "figures in the text." If one wants to turn to all the examples of one author, they are a little troublesome to find; and I would suggest the insertion of an index of authors' names, with the plants illustrated following on under each one. This would be a great convenience. The letterpress professes to deal with the "origin and evolution" (see the title-page) of the herbal. With all respect to the learned lady who has given us this interesting work, I cannot help feeling that the title is somewhat misleading. When I opened the book for the first time, I imagined I would find "all about" herbals in its pages. I always thought that there were *three* principal factors in the genesis and development of the herbal—medicine, botany and horticulture. As Mrs. Arber practically passes the first and the last of these by and concentrates herself upon the second, I think this should have been indicated, and that a title such as "Herbals in Their Relation to Botanical Science" would have been more appropriate. The whole is written from a botanist's point of view, and not a herbalist's; so much so, indeed, that the authoress gets almost angry because Dioscorides' classification is not up-to-date and certain other people's illustrations are not modernly botanical. (*Quære:* Would she expect to find in Pliny a disquisition on the "motor"?) It such a change were made, everyone would know what to expect when they purchased the book, and the interest in its contents would be just as great. In a small space much valuable information is given. The happenings of the high-water-mark era of the herbal are unfolded by a well-known botanist, and, what is so nice, they are so related as to be quite understandable by that celebrated personage, "the man-in-the-street." One or two comments on its contents I should like to make. I am a little surprised to read that the fable of the Goose Tree was rejected in the later editions of Gerard. As I read Johnson I hardly think it was. Again, as a friend who dabbles in bibliography points out, Choulant's "Graphische Incunabeln fuer Naturgeschichte und Medicin, 1858," ought to be in her second appendix. It is a bibliography and history rich in its descriptions of Latin herbals. And in the first, since Bartholomæus Anglicus finds a place, ought not P. de Crescenzi and Vincent de Beauvais also to be mentioned? Lastly, a full list with dates of the various editions of all the works included in Appendix I. would add much to its value, especially if in two or three cases the more accurate word "reprint" were used instead of "another edition," as, for example, in referring to the 1904 Parkinson. These little flies do not in the least spoil the flavour of the ointment. "Herbals" is a book to buy, to read and to keep. It is a *multum in parvo* of many of the most famous herbals of a most interesting period of their history. JOSEPH JACOB.

* "Herbals," by Agnes Arber; price 6s. Published by the University Press, Cambridge.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

INJURY TO ANTIRRHINUMS (*H. F. P.*).—We find neither insect nor fungus on the Antirrhinums. We suspect the cause of the death of the shoots is rather frost than a borne insect, and the wet and changeable weather is probably largely responsible for the spotting of the foliage.

WINTER-FLOWERING STOCKS (*M. C.*).—Neither fungus nor insect is to blame for the condition of your Stocks. They are suffering as the result of some cultural error. Perhaps the air has been too dry, or they have become either dry or too wet at the roots, which has shown itself in the dying of the leaf-tops, &c., especially as the plants have apparently been kept in a rather high atmosphere and the leaves have become thin and easily damaged.

DWARF PLANTS FOR FLAGSTONE PATH (*R. H. K.*).—Some of the dwarfest of plants suited to the purpose are *Erinus alpinus, *E. a. albus, Mentha Requienii, Arenaria balearica, Campanula pulla, C. pusilla, C. p. alba, Sedum hispanicum, S. h. var. glaucum, S. Lydium, *Dianthus squarrosa, *D. cæsia, *Linaria pilosa, *L. hepaticæfolia, Thymus lanuginosus, T. Serpyllum coccineus (quite a gem), *Draba aizoides, Veronica repens and Hutchinsia alpina. In certain circumstances the Aubrietias are valuable; in others they occupy too much space. The whole of the above are perennials. Those marked with an asterisk may be grown from seed if so desired. The better way, usually, is to introduce them by little pieces of plants, first raking out the interstices between the stones to a depth of 2 inches and charging them with good soil.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

A Good Valerian.—The genus Centranthus contains several species of ornamental herbaceous plants, excellent for borders where ordinary garden soil exists. C. coccineus grows about two feet high, is crimson in colour, and very effective in a mass or clumps at the back or middle of the border. The flowering period is from June to September, and plants can be purchased for a small sum.

Mulching Pæonies.—Between now and the end of March—the earlier the better in forward seasons—is a good time to apply a nourishing mulch to Pæonies. These plants are heavy feeders, and heavy drinkers, too, by the way, so there cannot be anything more beneficial than well-decayed manure placed around each plant, but not in or actually touching the crowns. Where cow-manure can be obtained, this should be given the preference, particularly if the soil be of a light nature. It is richer than ordinary stable manure, and experience has shown recognised growers that its use better suits the needs of Pæonies.

Our Special Spring Number.—Our next issue will be considerably enlarged, and will contain a number of interesting and useful articles on spring gardening. Seed-sowing, for both greenhouse and outdoor flowers, the best bulbous flowers that should be planted in spring, concise cultural details for the best fifty alpine plants for a small rock garden, and the first of a new series of articles on the Heath garden will be special features. Practical articles on Peas, Potatoes and Tomatoes will also be included. In addition to numerous black-and-white illustrations, there will be a coloured supplement of Antirrhinums. The price of this special issue will, as usual, be one penny.

Begonia manicata.—A fine group of this handsome Mexican Begonia, to be seen in the greenhouse at Kew, directs attention to its virtues for conservatory decoration during the early months of the year. As seen at Kew, individual plants, including the inflorescences, are as much as 3½ feet high; the base a group of large ornamental leaves, and the upper part fine, graceful inflorescences of pinkish flowers. In addition to the type, there are varieties with golden-variegated and fringed leaves. It is one of the easiest of the shrubby, or rather the rhizomatous, Begonias to cultivate, for it may be easily propagated from the offsets which appear from the semi-creeping stems, and it grows well in pots or pans in a well-drained compost made up of peat, loam, leaf-mould and sand.

A Beautiful Greenhouse Climber.—It is seldom that Hardenbergia comptoniana, a hard-wooded Australian climber, is seen in good condition; not that it is very difficult to grow, but because it is not well known, although a very old garden plant. Its proper place is the cool greenhouse, for in such a structure it is safe from thrips and red spider, which prove its worst enemies in warmer houses. In the Temperate House at Kew two plants were noticed recently in full flower, and few more beautiful sights can be imagined than these two large plants perfectly covered with racemes of charming, deep blue or violet, Pea-shaped flowers. This climber proves most satisfactory when planted out in a compost of sandy peat and loam. It must be carefully watered, for it soon suffers if allowed to become dry.

Big Bud in Black Currants.—This pest is likely to be migrating from one bush to another earlier than usual this season, and for that reason we give particulars of a remedy that Messrs. Pearson and Sons of Lowdham, Notts, first made public, and which we have since proved to be good. Use 2oz. of best quality soft soap and 4oz. of Quassia chips to one gallon of water (soft for preference). Steep the chips in cold water for some hours; then bring the water to boiling point and allow it to simmer for twenty minutes. Dissolve the soft soap in a separate vessel and add to the Quassia liquor while warm. Spray with this mixture as soon as the Currant leaves unfold, and repeat it at intervals of ten to fourteen days until the end of May.

A Sweet-Scented Annual.—Now that seed orders are being made out and sent to the seedsmen, we would draw attention to the little Night-scented Stock, Mathiola bicornis. This is not grown nearly so extensively as it ought to be. It is true that during the daytime the plants have nothing to commend them, but in the early evening the naked-looking stems are transformed into flowering wands. But the fragrance is the feature. There are few greater joys in gardening than to sit by an open window on a summer evening and inhale the fragrance of this little Stock. We always sow it close to the dwelling-house, where a modicum of lime in the shape of mortar from the walls is present. The early part of April is the time to sow the seed, but order it now.

An Easily-Grown Bulbous Plant.—Veltheimia viridifolia is an excellent subject for the conservatory during the early months of the year, for it may be had in flower from December until March if a little attention is paid to the period at which it is started into growth, while it is equally effective either used alone or mixed with plants having white flowers. A native of South Africa, it is recognised by its long, vivid green leaves, which are up to 18 inches long and 2½ inches wide, and by its rose or pinkish, cream-spotted flowers, which are borne in dense spikes. At potting-time the large, Onion-shaped bulbs are placed on the surface of the soil, or but slightly covered, and a compost of loamy soil, into which a little leaf-mould and sand has been mixed, usually suffices to produce excellent plants.

CORRESPONDENCE.

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

Laurustinus lucidum.—This, referred to by your correspondent "J. A. D." on page 67, February 8 issue, is largely planted in the Isle of Wight, where it does well, flowering in May. Besides the flowers being double the size of the common variety, they are of a pure white. It can be obtained, I believe, from Messrs. Gauntlett of Chiddingfold under the name of Viburnum Tinus lucidum.—C. G. O. B.

A Good Torch Lily.—On page 82 of THE GARDEN of February 15, in the notice of Tritomas (Kniphofias) I miss the very best of the dwarf varieties, Marie Derken. This makes a sturdy plant 1½ feet high, flowers very freely, and is much hardier and less affected by winter damp than any others. The colour of the spikes is brilliant—a gem, in fact; and every collection should embrace the noble, deep golden-flowered Star of Baden-Baden, which attains to 5 feet.—GEORGE BUNYARD, *Maidstone.*

"Carthago est delendum."—I apologise for my stupid blunder on page 75, issue February 8. I have, however, this consolation—that without it we would not have had "G. H. E.'s" interesting little bit of poetry on page 78 of last week's issue. I rejoice to find that while he so justly and so tenderly finds fault with the letter, no blame is attached to the spirit of the quotation. *Delenda est Carthago*—a National Daffodil Society must be formed. It is the persistency of the Roman orator that I feel I must copy, if that which I so much desire is to be a *fait accompli.*—J. JACOB.

Rose Rosabelle.—Among the newer climbing Roses I strongly recommend Rosabelle (Bruant, at Poitiers), which received a first-class certificate from the National Horticultural Society of France. It is a beautiful and mildew-proof Rose, with glossy and almost persistent foliage, purple-bronzed in youth, and it has a vigorous habit. The elegant, fragrant flowers are of a lovely pink colour, with salmon-like shades, and the reverse of the petals of a fine China pink hue. The flowers are rather drooping, but this must be imputed to the rambling and weeping character of the species. I have a plant in my Rose garden which gave me entire satisfaction and pleasure the first year it was planted, and I intend to plant a second as a very high weeping standard. It will perhaps interest English readers if I tell them that Anemone Hepatica triloba flowered this year on January 10 in my garden near Fribourg. I was then in Paris, and my boys sent me a few of these lovely little flowers in their letters.—BARONNE A. DE GRAFFEURIED-VILLARS, *Château de La Poya, Fribourg, Switzerland.*

Serious Losses Among Roses.—I am tempted to respond to Mr. Blair's invitation in THE GARDEN of February 8, page 66, as I seldom see my district represented in your excellent paper. We had a snowstorm on November 28, while Roses were in full leaf and flowering freely. Two days later the temperature fell to zero, and the following night it rose to 4° Fahr. Among climbing Roses Crimson Rambler suffered most severely, one plant being killed outright. Rêve d'Or was also seriously damaged, but it may yet recover. Other Roses show more or less damage. The only standards killed are those of Jeannie Dickson, budded on Briar. Among dwarf Roses Mme. Jules Grolez and Laurette Messimy have been the most injured. Grüss an Teplitz, within a few feet of Crimson Rambler, shows no sign of injury, and Blairii No. 2, close to Mme. Jules Grolez, is still bearing last summer's foliage quite fresh and green. None of my newly-planted Roses suffered. Generally speaking, those Roses most prone to mildew suffered, and among standards those on the rugosa stock did better than those on the Briar.—M. H. SCOTT-NICHOLSON, *Barn Close, Carlisle.*

A National Daffodil Society.—The majority of Daffodil-fanciers will heartily agree with the suggestion put forward by the Rev. J. Jacob and others, "that the time has come when steps should be taken to see if a National Daffodil Society could not be formed." Mr. Jacob furnishes us with his reasons, comparisons and facts which are evident and galling to those who desire freedom, progress and a more commanding position, which it deserves. According to the Royal Horticultural Society's Book of Arrangements for 1913 (see page 57), I notice that the society is restricted and fettered by its own regulations, for there we read that "The society being registered as a scientific institution it is exceedingly doubtful whether it is not legally prohibited from offering money prizes at any of its shows to any of its members." The responsibility is placed on the shoulders of a few leaders. The Royal Horticultural Society cannot be blamed for the want of generosity. To my mind its own laws prohibit progress. This is an additional reason why we should agitate for a National Daffodil Society and why all lovers of this favourite flower should render what assistance they can in its formation.—J. E. D., *Talygarn.*

——I have read Dr. Lower's letter in your last issue with much interest and sympathy. I am inclined to think that if Dr. Lower could use his persuasive powers effectually on "G. H. E.," whose poem appears just above his letter (and who has previously only been known to us as a maker of *Poets*, not poems), one of the principal obstacles to the formation of a National Daffodil Society would disappear. But Dr. Lower would have to be a better pleader than I have been.—F. HERBERT CHAPMAN.

—— As a Daffodil enthusiast and one who would like to see a greater diffusion of the doings of the Daffodil world, I venture to address you on this much-vexed subject. Have the would-be promoters of the National Society carefully weighed the results of their movement, if successful? Three results would seem to me likely to follow: (1) A serious interference with the Midland Daffodil Society, if not its abolition. (2) Virtually a break with the Royal Horticultural Society. (3) The incurrence of a heavy financial responsibility. As to No. 1, can supporters of the Midland Daffodil Society logically and with loyalty to such society promote another society which may supersede the Midland Society? As to No. 2, can the promoters of the new society ensure an attendance such as the shows under the auspices of the Royal Horticultural Society ensure? As to No. 3, why incur any financial responsibilities while the Royal Horticultural Society is willing to save all these? Is there not another way of obtaining our wants than breaking up one of our friends and breaking off with the other? I would suggest that a more universal membership of the Midland Society is one way, as if we put funds into that society's hands it might issue fuller reports and disseminate the news of the Daffodil world; and I would further suggest that a combined and firm representation to the Royal Horticultural Society's committee might ensure a better service from that committee.—C. LEMESLE ADAMS. [Would the Midland Daffodil Society be willing to form itself into a National Society? If so, a great initial difficulty would be overcome. Working details could be arranged later by mutual consent.—ED.]

—— I have been pleased to see in recent issues of THE GARDEN an article and letters respecting the formation of a National Daffodil Society. I am much in favour of the formation of such a society, as, although the Midland Society is most useful and well managed, it cannot possibly do the work which a National Society would be able to do.—J. MALLENDER, *Scrooby.*

Hardiness of Campanula isophylla.—The paragraph by your esteemed contributor Mr. Arnott on page 66, February 8 issue, prompts me to reply that plants have grown for years in Portobello in an open border facing east. They had become so large that advice was sought as to dividing them. The border was raised somewhat from the adjoining path and ran along the side of a dwelling-house. In another part of the town this plant grew well in an ordinary herbaceous border, but suffered much from wind. The soil here was distinctly light. I have grown the white form for many years in pots that were always frozen solid in severe weather. Then the foliage and shoots became quite limp, I presume through lack of available water, for as soon as a thaw came they never seemed any the worse. I grew them in a very draughty corridor, where they were only protected from rain. To get nice plants I encouraged new growth as much as possible as soon as the flowers were past, never allowing the soil to get dry, and I thus got very long growths, which by the end of July, throughout August and into September were simply a mass of bloom. The enclosed photograph is of a plant so treated. It was in a 7-inch pot, suspended by wires attached to a cord and pulley for convenience in watering. This plant measured exactly 63 inches from bottom to top, and had not been repotted for four years. It faced a slanting glass roof backed by a wall, so the flowers were all on one side. It was grown naturally without training, except that a few growths were twined about the wires supporting the pot. I was not aware this Campanula was considered tender. Mere cold may, I think, be disregarded, but strong wind and soaked foliage are certainly detrimental.—W. T. BASHFORD, *Portobello, Midlothian.*

—— I have read with interest the remarks of Mr. Arnott in your issue of February 8 regarding Campanula isophylla standing the winter in some parts of the country but not in others. I have some plants, 8 inches across, growing on a rockery facing north-east, and up to the present time they are looking quite healthy, although, of course, we have had a very mild winter so far, but they have stood 10° to 12° of frost.—W. COLES, *The Gardens, Wallacefield, Croydon.*

—— In reference to the note about this plant on page 66, it may be interesting to some readers to know that I have grown it in the open for several years in some cast-iron vases fully exposed, and it has stood the severest frosts. I leave it undisturbed through the winter, and then break it up in the spring and plant it alternately with blue Lobelia round the edge of the vase, which makes a very pretty combination.—C. WILLIAMS, *The Gardens, Belmont House, Doncaster.*

—— Seedlings of this plant raised during the summer of 1911 were planted out in the open garden at Lambay Island and remained there the following winter. We experienced no severe frost, but the ground was often very wet. These plants were eventually planted on a rock garden. They flowered profusely during the summer. Some years since the writer put out some plants from pots on a small rockery in Hertfordshire. Although these were partially protected during the following winter, only one plant out of about a dozen survived, and this did not grow strong enough to produce flowers. The conclusion is that this lovely Campanula is not hardy, and can only be grown in the open in localities where severe frosts are practically unknown. As hanging plants for windows, also for use in baskets during the summer, these subjects are invaluable.—C. Ruse, *Ireland.*

RESULT OF THE ACROSTICS.

We now have much pleasure in announcing the prize-winners in the Acrostic Competition. No one correctly solved more than four out of the eight set, and only two ("Elm Bampton" and "R. P. B.") had this number to their credit. In both cases the correct solutions were those of Nos. 1, 2, 6 and 7. According to the conditions already announced, the first and second prizes will be equally divided between these two. In five cases three correct solutions have been sent in, viz., by "Leander," W. Bond, L. A. Louden, Mrs. Florence Jones and "White Lady." The acrostics correctly solved were Nos. 1, 2, 3, 6 and 7, grouped in various ways. The third prize will be divided between these five.

In the course of the next two or three weeks we hope to have time to study the results in detail, and we will then comment upon them. Guided by our experience in the present competition, we intend to outline another on similar lines, which we hope to conduct during the winter of 1913–14.

Prize-List.—Equal firsts: Mrs. Macalister, Hamslade, Bampton, North Devon; and Mr. R. P Brotherston, Tyninghame, Prestonkirk, N.B. Equal thirds: Mr. H. Ticehurst, 43, Leander Road, Brixton; Mr. W. Bond, 66, Bostal Lane, Abbey Wood, Kent; Mr. L. A. Louden, Louden House, South Woodford; Mrs. Florence Jones, 21, West Bank Road, Birkenhead; and Mrs. H. R. Darlington, Park House, Potter's Bar.

Sixteen competitors sent in two correct solutions.

FORTHCOMING EVENTS.

February 28.—Beckenham Horticultural Society's Meeting and Lecture.

March 1.—Société Française d'Horticulture de Londres Meeting.

ANOTHER FUNGOID PEST.

MYSTERIOUS DISEASE OF HYACINTHS AND DAFFODILS.

For several seasons past the Hyacinths potted up for trial purposes by my firm have failed in a very puzzling manner. They have started to grow, and then, when the tops have been 2 inches to 3 inches high, growth has stopped and many have failed to develop their flower-spikes, while others have flowered but poorly. On examining the roots they have been found more or less damaged, in some cases entirely gone, in others partly decayed. For a long time we attributed the failure to eelworm, or a similar whitish grub just visible to the naked eye. Consequently, we had the soil sterilised and hoped for an improvement; but the case was as bad as ever, and, unfortunately, a large batch of Daffodils potted up with a view to exhibiting the blooms in March shared the same fate as the Hyacinths, only they were not quite so badly affected.

Last autumn we procured some nice fresh Kettering loam and potted up both Hyacinths and Daffodils in it after it had been turned several times and well aired. All bulbs have done well in this soil with the exception of Hyacinths, which made splendid roots, and then, just about the time they were brought inside, the tips of the roots began to go brown, and after a week or two half the roots were quite decayed; at least, the worst specimens were. In some cases there was much less damage done.

Having exhausted every theory as to the cause of the damage, but leaning strongly to the idea of a fungus pest, I at last sent two good specimen bulbs in their pots to the Nottingham University, and Professor Carr, the resident botanist there, had the matter thoroughly investigated, and reports that the trouble is caused by the fungus Pythium Barganum, and that sections cut through the roots of the Hyacinths revealed the fungus in all stages of growth. Now, this is a decided gain to know what kind of enemy one is fighting, but at present I am quite in the dark as to what causes the fungus to attack the healthy roots.

After being potted the bulbs were placed on ashes, and were plunged in and lightly covered with Cocoanut fibre, a small inverted pot having been previously placed over the bulb. When removed from the plunging material, the plants looked really well, both as regards roots and tops; but, as before stated, the roots soon began to go wrong. The soil did not seem the least bit too wet, and looked beautifully fresh and sweet. Some Hyacinths potted in fibre are not attacked by the fungus, but have roots as white as snow. Last year some Daffodils grown in boxes for cut bloom were so badly affected that they were quite rootless, and could be easily pulled up by taking hold of the foliage. I was convinced that it was no fault of the bulbs, as some of the same varieties grown in fibre were all right. Now, this year, Daffodils treated in the same way, only planted in the Kettering loam, have done excellently, and have had roots protruding from the bottom of the boxes some 4 inches to 6 inches; yet in the same soil the Hyacinths have gone wrong. I am perfectly sure, from letters one sees in the columns of this and other gardening papers, that there are many sufferers from this pest, and a preventive or cure would be welcomed by many.

Only a few days ago one of our correspondents sent some Roman Hyacinth bulbs which had failed to flower. These were quite healthy and plump as to the bulbs, but when one looked for roots

A HANGING PLANT OF CAMPANULA ISOPHYLLA ALBA GROWN BY MR. W. T. BASHFORD, PORTOBELLO, MIDLOTHIAN. THIS MEASURED 5 FEET 3 INCHES FROM BASE TO SUMMIT.

there were none. There had been roots, but they had decayed completely away. Some bulbs potted up for trial from the same batch have given us better bloom than we have had for years, which proves that the fault lies with the soil or environment, and not with the bulb. One reason why I have ventilated this question is that those who are suffering from the effects of the same disease should not lay the blame upon the bulbs, but seek for the cause of failure in other directions. Another reason is that I have hopes of hearing from one of your numerous readers that he or she has been plagued with the same trouble and has found a remedy for it, for that is what we all want.

Lowdham, Notts J. DUNCAN PEARSON.

THE ROSE GARDEN.

ROSE-PRUNING AND THE MILD WEATHER.

THERE are many readers, no doubt, much exercised in mind as to what they should do in the way of pruning in this exceptionally early season. They are wondering whether, instead of waiting till the usual time of the second week in March for the hardier sorts and early April for the Teas, they should start almost at once, seeing that growth is so wonderfully forward. In some cases I have even seen bloom-buds forming on the new shoots. Now, my advice would be to defer pruning until the usual time, for this reason: If we prune now or at the end of February, or even early in March, our plants are sure to start into growth almost at once if present conditions prevail. And therein would be the risk, because April frosts would almost certainly cripple the growths that should, under normal conditions, give us our best blooms. In "The Book of the Rose," by the Rev. Foster Melliar, the author refers to a very early season—1893—and says that the plants "bled" a great deal that year, owing to the very forward growths at pruning-time, and although the ground around was kept quite damp for some days by the overflowing sap, yet subsequent growth did not seem to suffer thereby.

Those who have had occasion to transplant their Roses will be fortunate in having retarded plants, and if one could have foreseen such a season, it would have been a good plan to have just raised the plants a little and dropped them back again in their own positions. I have plants that have been moved three or four times in the course of the last three months, and they are in a nice dormant condition. If we have no very severe weather, Ramblers will be very early; but, alas! they have a usually cruel May to go through, and I fear the result. These Roses, however, have a wonderful power of recuperation from the basal eyes of the lateral shoots. A year or so ago, some plants of Blush Rambler were so forward when a frost came that they seemed as though they had been singed; yet I did not cut the young growths away, but allowed them to develop, and the plants flowered as though nothing had happened. The advice now given is that Roses should not be pruned earlier than usual in this forward season. When pruning is done, it must be mostly to dormant eyes, except in the case of decorative Roses. These may have a growth or two left much longer, and although it may be advisable to cut this growth away later on when others are developed, it serves the good purpose of slightly retarding lower eyes and also preventing a too severe "bleeding" of the sap. DANECROFT.

SOME OF THE NEWER HYBRID TEA ROSES.

(*Continued from page* 82.)

Theresa (A. Dickson and Sons, 1909).—Semi-double flowers of variable but beautiful colouring, orange apricot, with carmine splashes on the outside of the petals, passing to flesh pink. Excellent habit of growth and free-flowering, fragrant and a pretty decorative variety.

Verna MacKay (A. Dickson and Sons, 1912).—A bright lemon-coloured flower, reminiscent of the beautiful garden variety sent out in 1911 called Carine. It may be a sport from that variety, but it is a very beautiful Rose that has only one fault, and that is it is not quite free from mildew. Free-flowering; medium-sized flowers of excellent shape, sweetly perfumed.

Viscount Carlow (A. Dickson and Sons, 1910).—An excellent bedding Rose, very free-flowering; colour, a bright pink on a cream ground. Distinct bronzy foliage and excellent habit of growth.

Viscountess Enfield (Pernet-Ducher, 1910).—A beautiful button-hole Rose of distinct colouring, coppery rose, with yellow shading. Not too good a grower with me, but it may improve in this respect, as I believe my plants were grafted.

Walter Speed (A. Dickson and Sons, 1909).—This can be best described as a yellow-tinted Antoine Rivoire, with all the good points of that fine old variety. It is, if anything, better shaped, and will, no doubt, find its way occasionally on to the exhibition bench; but it is a good garden Rose, though we have so many of these whitish Roses, tinted yellow, that very many of them will fall out of cultivation. Walter Speed is, however, one of the best of them all, and when better known will become popular. Next week I will conclude these notes with particulars of a few of the newer decorative Tea Roses.

Southampton. H. E. MOLYNEUX.

A NEW AND DISTINCT POLYPODIUM FOR THE GREENHOUSE. (*See page* 93.)

THE GREENHOUSE.

NOTES ON CHRYSANTHEMUMS.

EVEN since the first batch of cuttings was put in, the weather has been favourable for them, except in the matter of damping in cases where amateur cultivators have been obliged to rely on cold houses or frames in which to carry out propagation. From this cause, and in the circumstances referred to, some loss has been sustained. The newly-rooted cuttings have, however, grown very nicely indeed, as there has been no frost severe enough to check them. Such frost, however, may be experienced, and, if so, growers must duly protect their plants, as the young stems are rather tender.

The Potting of the Rooted Cuttings.—It is not wise on the part of the cultivator to allow the newly-rooted cuttings to remain too long in the small pots. Time is precious, and it soon passes; and if the young plants are not closely watched and potted on when they need more rooting space

and fresh nourishment, they quickly lose ground, as it were. A light, sandy compost is the best for the plants generally. Some rotted manure should be mixed with equal quantities of fibrous loam and leaf-soil, at the rate of one peck to five pecks of the combined parts. At this potting, too, a 3½-inch potful of bone-meal may be added to a bushel of the prepared compost, but no concentrated manures, because the roots to each plant are not very numerous. Avoid firm potting, too; simply press down the soil gently with the fingers and keep the roots near the surface, removing any of the loose cutting soil from the top.

A Good Position for the Plants.—When first repotted, place the plants fairly close together on a stage, or in a frame in the Southern Counties, for a week or so, and during that time avoid watering the soil unless it gets rather dry, as, if it is fairly moist when used, two or three light syringings will be sufficient and the roots will permeate the new compost more freely. Then water through a fine-rosed watering-can and spread out the plants so as to admit air among them freely. They should be placed close to the roof glass if in a greenhouse, and on a bed of ashes if in a frame.

Ventilation and Mildew.—After the work of repotting has been done, do not admit air to the plants for several days, and afterwards apply it in such a way as to avoid cold currents of air blowing directly on them. They must be well ventilated, as fresh air in mild weather is very essential; but cold draughts cause the spread of mildew and check free growth. Any plants affected by mildew must be dealt with quickly, else many leaves will be lost. Flowers of sulphur dusted on the parts will be found a good and simple remedy.

Propagation in Spring.—Plants that are to be grown with single stems and to bear one bloom only are best raised from cuttings inserted from February 20 to April 20. The early varieties must be propagated in April, and the naturally late-flowering ones at the end of February and during March. Some cultivators insert several cuttings in a large pot or box, but beginners should insert one cutting in a small, deep pot; then, when sufficiently rooted, repot at once and there will be no check. It is very important that the late-rooted plants be grown on steadily, and not forced in a high temperature. The cuttings root quickly at this season, so that a stock of young plants is soon secured. Avon.

A NEW FERN.

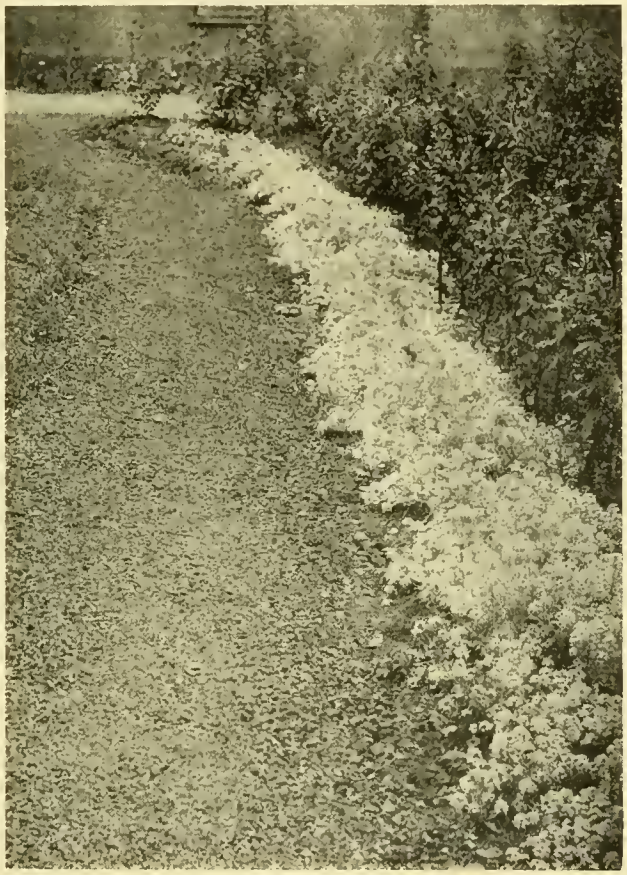
(Polypodium irioides pendulum grandiceps.)

The new Fern illustrated on page 92, and having the misfortune to bear the above name, was referred to in our issue of February 15, page 87, under "New and Rare Plants." It is very distinct in appearance, with forked fronds of leathery texture, which are more suggestive of the Stag's-horn Fern or Platycerium rather than a Polypodium. The fronds are of a deep rich olive green colour, and inclined to be of pendent habit. Old specimens are said to make beautiful basket plants, producing trailing fronds a yard in length. The plant was introduced from a garden in Queensland.

THE FLOWER GARDEN.

SOME GOOD ANNUAL FLOWERS FOR EDGINGS.

In The Garden for January 4 there was an article on the use of annuals for edgings to the kitchen garden paths, with an illustration of a path bordered by white Candytuft. In addition to the kitchen garden, there are the more ornamental parts of the garden where the paths might well be edged, at very little expense, with annual flowers, particularly those of a low-growing character. The accompanying illustration shows an edging of Alyssum Webb's White Carpet, that made an attractive feature in the garden for nearly four months last year for the initial outlay of sixpence, the cost of the seed. The border at the back of this edging was filled with Horace Martin Chrysanthemums, and when these were in bloom during the early autumn the effect was most pleasing. It will be noted that the edging of Alyssum is a broad one. This is important. A narrow edging, if of any considerable length, looks puny and out of place.



A BROAD EDGING OF ALYSSUM WHITE CARPET, A HARDY ANNUAL THAT MAY BE SOWN OUTDOORS IN SPRING.

The chief merits of these annual flowers are their easy cultivation, effectiveness and cheapness. It is only necessary to sow the seed thinly in early April, subsequently thin the seedlings, and keep those that remain free from weeds. In addition to the Alyssum and Candytuft already referred to, there are a number of annuals suitable for edgings, among them being Leptosiphon hybridus, (a little gem that likes a sunny place), Mignonette, Virginian Stock, Viscaria cardinalis, Erysimum perofskianum, Nemophila insignis (should not be sown where cats are troublesome), Phacelia campanularia, Saponaria calabrica, Silene pendula compacta, dwarf Godetias, and Sanvitalia procumbens Little Gem. H. H.

LILIES: A CAUSERIE.

(*Continued from page 84.*)

Lilium Henryi is still high-priced, but well worth 5s. for a good bulb. It has such a fine effect in the border, and is very amiable in most gardens. I have been told that its native home is a ledge on a cliff face, and most frequently there is but little depth of soil for its bed, so that, growing wild, it has never been seen exceeding 4 feet in height, and its arching habit well fits it to hang out over the precipices. I have sometimes seen it in gardens, staked stiffly upright, and then all its grace is gone. I would as soon see Solomon's Seal staked to stand up as does a Guardsman. There is a photograph of a fine head of L. Henryi in a recent American gardening magazine that well illustrates this. There must be nearly fifty flowers and buds on that stem; but it appears a confused mass instead of the graceful groupings of opened and unopened flowers that may be seen on a stem allowed to bend over to a horizontal position in its own way. If shooting up through thin shrubs, the lower portion would be supported, but if among low plants it is, perhaps, as well to stake the lower 2 feet or 3 feet of the stem, doing so before it has grown more than three feet high, and cutting the top of the stake off at about that height. L. Henryi flowers throughout August, which adds to its value, as it just precedes L. tigrinum in time of flowering.

This last is, in fact, the latest-flowering Lily that it is safe to trust in the open ground in most British gardens, that glorious, stately creature, L. sulphureum, being too precious to risk outdoors save in Cornish, South Irish and other singularly well-favoured gardens. The Tiger Lily is too well known to need description here. A large planting of it is a fine sight when in flower; its warm but soft orange ground colour is rare in gardens at any season, and one of those I most enjoy. I had a good effect this autumn from a bold group of its fine and late-flowering variety splendens, growing among white Phloxes and various shrubs with silver variegation of leaf, among which Galtonia candicans was scattered at irregular distances, the whole backed by purple-leaved shrubs and trees, such as Prunus Pissardii, Purple Hazel and Barberry, Enonymus europæus, and that most wonderful of all purple-leaved things, Paul's Purple Peach. How I hope they will all reproduce the picture again and again! But here L. tigrinum wearies of my lime-charged soil in two or three years. The variety named Fortunei is also very good, and may be known by its grey, woolly stem and earlier flowering. I do not care much for the double-flowered form, for though its individual

flowers last rather longer, they never make so fine a display as those of the two varieties previously named. For those with patience, a spare corner and plenty of leaf-mould and good loam, it is easy to raise a stock of the Tiger Lily from the bulbils so freely produced in the axils of the leaves, and which, if well treated, should flower in the third or fourth year.

There remains but one group more that I can rank in my second class of Fidos, the Orange Lilies being the only other trustworthy canine-natured settlers here. To reconcile the synonyms, sort out the varieties, and group the subspecies around a central head of the clan. In this group is a work awaiting another Daniel to come to judgment and a Solomon with a knowledge of everything from "the Hyssop on the wall to the Bishop on the bench," and perhaps then we should still need a special enquiry under a stipendiary magistrate to tell us whether or no we might believe the evidence in an ordinary sense or only in a police-court one. Anyway, I shall not attempt it. I find such divergence of opinion among the highest authorities, Nyman, l'Abbé Coste, Baker, &c., as to where L. bulbiferum ends and croceum or davuricum begins in wild or cultivated forms that I just grow what I can get of any of them. I used to believe bulbiferum invariably grew bulbils, and thereby was easily distinguished from the others; but whenever I have come across the glowing Fire Lily growing wild, never a bulbil has it given me to carry away and grow. I have seen it on rocky ledges, single-flowered and only inches high, on the Gothard, a glorious splash of colour against the grey rocks. Once, above a damp ravine, the Lilies made lines of fire along the ledges, and, below, Saxifraga Cotyledon shot out ostrich feathers of brilliant whiteness. But I think it pleased me even more when its flowers floated above the Meadow-grasses, Campanulas and Salvias of Tyrolean hayfields, even as Poppies often do in East Anglia, and it was a pleasant thing to see a corps of Alpinisti returning, after some mountain manœuvres, to the Barracks at Daone, a tired and travel-stained company indeed, but many of them carrying bunches of flowers, and especially of Orange Lilies. I have never yet seen Mr. Thomas Atkins returning from Aldershot with a bunch of Gentiana Pneumonanthe. I wish a millionaire would let me plant a sloping hay-meadow with all the varieties of Orange Lilies his purse and the nurserymen could provide, and let me go and stare at them annually before they fell, whether before the mower or the wind. Failing hay-meadows, they look well enough in an ordinary sunny border, and umbellatum, whether it be right to call it a davuricum, bulbiferum or a hybrid from elegans, is one of the best for most purposes. The croceum of cottage gardens is a great favourite of mine, as its colour is so good and true an orange.

Of my third class—the hoity-toity beauties, I feel, may be offended at any moment—I should like to speak in whispers, or have this paragraph set in the smallest type, lest I scare them. L. chalcedonicum, the glorious scarlet Martagon, is one. Now and then it has appeared quite happy here, and sent up tall stems furnished so neatly and overlappingly with the white-edged leaves so distinctive of its identity that I have believed all was well; then for a season or two inch-high stems and blind buds. I think it loves a stiff soil, its feet in a cold poultice in summer, but its head in a furnace; for I have known it to thrive marvellously in the clay soil of Cheltenham, and here it seems to suffer most after hot summers. It comes from Greece, so should love heat, and is said to stand drought; but I have often known candidum to flourish well on stiff clay if not planted deeply, and especially if in sloping ground. The pure scarlet of chalcedonicum's flowers is so glorious that it is worth a struggle to grow it, and I believe stiff soil on a sunny bank of rockwork might make it happy. Lilium Brownii has lived happily for some dozen years in a peat bed, behind a Cactus bank, where American Erythroniums also flourish. The bank shades the midday sun from its roots, and the Lily's great flowers stand up into the sunlight. It is exquisitely beautiful in shape and colouring; the brown outer surface of the trumpets reminds me of some beautiful Japanese carving in ivory, in which the natural brown outside of the tusk has been left where required. I hope my written praise will not affright it.

A BED OF LILIUM BROWNII AT KEW, WITH A CARPETING OF IRISH HEATH.

As the New Year is still so young, surely it is in place to make some good resolutions. I must make a point of growing more Lilies from seed, and I strongly advise all who have followed me thus far in these notes to be on the look-out for fresh, ripe seed whenever available, and to sow it at once. The charming group of L. rubellum on page 95 shows what has been done at Kew lately, and what you and I ought to do.

Waltham Cross. E. A. Bowles.

DAFFODIL NOTES.

Early Flowers in Pots.—As the bulbs I force are an *omnium gatherum* from many sources, I may, I think, take my own experience as a sample of that of others. All the same, I hope it is not, for my flowers so far (February 13) have not been as large or as even as usual, and in some cases the foliage has been more or less distorted. Curiously enough, Dutch bulbs have been more satisfactory than British-grown ones, which is not the case as a rule. As bearing upon this I had a certain variety grown in 1911–12 in five different parts of the British Isles, and also in Holland. I potted last autumn a sample from each place, six in all. Up to two days ago these lived in a cold shed, and afterwards in a cold frame, so they have not been forced. At the time of writing, the Dutch-grown ones are the picture of health, while the others all look rather yellowish, and those from the warmest district the worst of all. Each one was potted on the same day and in the same mixture of soil, and all along each has had precisely the same treatment. This is a puzzler. My man and I have talked it over and talked it over, but we have got no "forrarder." All I can say is that it seems to have some bearing on our experience with the other bulbs. Perhaps some reader can throw some light on this.

Orphee and Fairy Queen in Pots.—My good opinion of these for pot work at the end of January has been confirmed. For a bit of red colour at this early period of the year I know nothing better than Orphee. It beats Barri conspicuus into "a cocked hat." I always think the merits of this grand old border variety as a pot plant are greatly overrated. The two have been in flower for the last week in my greenhouse, and you might as well compare the veriest daub to one of Mr. Hayward's exquisite flower paintings as old Barri in a pot to its less-known and more-than-rival Orphee growing in the same receptacle. The well-defined red edge of the cup always shows up

so well, and the pale primrose perianth keeps quite stiff and never flops. Both stem and leaves are good. The shapely little Leedsii Fairy Queen also lends itself to this unnatural treatment. It comes so easily, it is so floriferous, and it is of such an exquisite shape that, even without its nice spicy perfume, it would be a variety to be highly recommended for this purpose.

Cultivation in the Open.—This is such an abnormal season that a word as to the benefits of the constant stirring of the surface of Daffodil beds and clumps may be given now. Two important factors in Daffodil cultivation are deep digging before planting to promote, among other things, good drainage and warmth, and in the spring, when the little noses begin to peep above the ground, the constant loosening of the surface to give the plants air. This latter operation is best performed by the use of an appropriate-sized "Buco" cultivator. It is altogether a more satisfactory tool than the old hoe. It does the same work, but much quicker and more thoroughly.

Helxine Solierolii.—The possibilities of using this as a carpet plant for bulbs in pots struck me last autumn, and I tried the experiment on a small scale. I have now a small pan of W. P. Milner and another of Winter Cheer Hyacinth with the soil nicely covered all over and the bulbs just about to flower. The effect is excellent. My procedure was as follows: I put small cuttings of Helxine all over the pans in September, and when these were getting hold, I put in the bulbs. They have been in a frost-proof frame with practically no heat ever since. This plant strikes so easily that there is no difficulty in having a sufficient stock always at hand to carpet a goodly number of pots or pans.

Packing Flowers to Take to Show.—I have been asked by one or two correspondents to give a few wrinkles on how to pack for show. I have had a photograph taken of a partly-filled box, and, as it has turned out a pretty good one, I hope to use it next week to illustrate an article on this subject. Getting one's blooms to the show in the best condition possible is one of the essentials of success. JOSEPH JACOB

THIS GROUP OF LILIUM RUBELLUM WAS RAISED AT KEW FROM SEEDS.

SCIENCE IN HORTICULTURE.

THE RIPENING OF FRUIT.

Natural Ripening.—A knowledge of the essential conditions regulating the ripening of fruit, and especially of soft fruit, is of peculiar interest to gardeners. Everyone is quite familiar with the change that takes place whereby a sour Apple gradually changes its character and becomes sweet, and also how a green, hard, bitter Date fruit gradually loses its astringency and becomes mellow and pleasing to the taste.

With regard to this subject, Gerber some years ago conducted researches with three types of fruit, namely, those containing (1) malic acid, as in the Apple; (2) tartaric acid, as in the Grape; and (3) citric acid, as in the Orange. He showed that during the ripening changes respiration was very active, that oxygen gas was absorbed, and that much carbonic acid was generated. As ripening advanced, the acid was gradually changed to sugar, as was also any starch that happened to be present in the fruit. He also stated that the tannin which imparts the bitter taste to the unripe fruit was destroyed by oxidation. Furthermore, it was discovered that these changes would only take place within certain limits as to temperature. Fruits containing malic acid required only a comparatively low temperature, hence the perfect ripening of Apples in these latitudes; while it explains also why Apples, if botanically ripe (that is, the seeds matured) but the flesh still sour, will ripen after harvesting.

Tartaric acid fruits require a medium temperature, hence the necessity of allowing Grapes to ripen in this country on the Vines. Citric acid fruits require a still higher temperature, as all gardeners know who attempt the cultivation of Oranges. But the changes that take place in fruit do not stop at the "ripening" stage. Fermentation follows and the sugar is changed into alcohol, volatile acids and perfumes, to be succeeded, in turn, by still further changes that gradually pass into decomposition of all the softer tissue. These latter changes also are influenced by temperature; hence the use of cold storage as a means of arresting such after-maturation results. According to a recently-published Hungarian report on fruit storage, the temperature most favourable for the good preservation of Apples is from 2° to 3° Cent., that is, 2° to 3° above freezing temperature.

Artificial Ripening.—Most interesting and instructive experiments in the artificial ripening of Date fruit are at present in progress in the United States. The results obtained so far are very suggestive, and British fruit-growers would do well to keep in touch with the work. Algerian Dates have been introduced to cultivation into certain Western States (California and Arizona) having a climate apparently suitable for these popular and profitable fruits. But it was found that while they grow well and produce fruit, yet the conditions are not favourable for the completion of the ripening process. It is therefore necessary, if the projected new industry is to succeed, that some method be devised to ripen the fruit artificially. Mr. Swingle of the Scientific Staff of the Department of Agriculture at Washington has charge of the experiments. When the seed of the Date has reached maturity, the flesh of the fruit is so bitter (due to the presence of tannin) that it is quite uneatable, and the problem is how to artificially alter the tannin so that it will lose its astringency. According to Swingle, there are two essential factors influencing the change—heat and moisture. In Arizona the autumns are warm enough, but the air is too dry; therefore the experiment has been made to harvest the botanically ripe but still bitter fruits and subject them to a moist heat of 43° to 49° Cent., when ripening takes place within twenty-four hours. The tannin collects in a layer of large cells close to the skin, and undergoes a change in character that destroys its astringent property. (This tannin layer may be seen as a dark ring on cutting a Date fruit in half.)

But perhaps the most interesting experiments relating to the artificial ripening of bitter fruits are those carried on by Professor Lloyd of the McGill University. By a series of observations, experiments and inferences, and guided by the previous experience of Gore of the United States Department of Agriculture, this worker was led to believe that the cause of the tannin change was not directly due to oxidation, but to the presence of carbonic acid gas produced by oxidation. In order to test this theory, he constructed a metal vessel in which the unripe fruits could be placed and subjected to the influence of an atmosphere

of pure carbonic acid gas under any desired pressure. With this apparatus and at 15lb. pressure the fruits lost their bitterness in about thirty-six hours, while at a 45lb. pressure the ripening change was effected in about fifteen hours. This method has the advantage of great simplicity and cheapness. Firm, unripe, bitter fruits, such as Dates or Persimmons, can be sent long distances to market, and made ripe and ready for immediate sale and use within fifteen hours of delivery, or, in case of a glut, kept in cold storage until the state of the market justifies their immediate ripening.

DAVID HOUSTON.

Royal College of Science for Ireland.

TREES AND SHRUBS.

THE DAPHNES AND HOW TO GROW THEM.

DAPHNES are an extremely ornamental genus of plants, esteemed both for their beauty and the delicate fragrance of their flowers. A large number are among our hardiest shrubs, those of tall growth being eminently adapted for grouping in shrubberies and woodlands, while the dwarf kinds form a group of exquisitely beautiful rock plants. The commonest and best-known species is D. Mezereum, whose fragrant, reddish purple blossoms wreathe the naked branches in January and February. It attains a height of 3 feet to 4 feet, with erect branches, at the nodes of which the clustered flowers are borne. It succeeds best in a sunny position, or with only partial shade, and grows freely in ordinary garden soil. Its precocious beauty and charming fragrance are best enjoyed when it occupies a foremost position in the shrubbery. Besides the type, there is a pink-flowered form, also single and double white-flowered varieties.

D. oleoides is a plant of many synonyms; D. fioniana, D. collina and D. neapolitana are identical with this. It forms a neat, rounded bush some 2 feet to 3 feet high, producing rose purple flowers in small clusters at the extremities of the branches. It makes an attractive shrub for the rock garden, but is not so showy as some others.

D. Laureola and its variety Philippii and D. pontica are stout, evergreen shrubs that succeed admirably under the shade of other trees, including Beech; they also grow freely in almost any kind of soil. While those already described are all indigenous to Europe, D. Genkwa comes from far Eastern Japan, and is one of the most captivating of this genus. Unfortunately, it is not quite hardy, and is best grown against a low wall. The flowers, as in our common Mezereon, are borne on the naked branches in advance of the leaves. Individually they are very large, of a rich shade of lilac and sweetly fragrant. It reaches a height of 2 feet to 3 feet, or rather taller when grown against a warm wall

D. blagayana is a prostrate species with creamy white, tubular flowers, arranged in dense heads on the terminal points of the branches. The leaves are evergreen and chiefly confined to the points, around which they are arranged in the form of a rosette. It rarely exceeds 6 inches in height, spreading out in all directions. It soon forms a rich carpet, succeeding best in a mixture of loam, peat and sandstone chips in a partially shady position, the scented flowers being in season during March and April. D. blagayana and D. Cneorum are two of the most select Daphnes, easy to procure and not difficult to cultivate. The Garland Flower, as the latter is called, is a native of the great mountain ranges of Europe, and is eminently adapted for the rock garden. The roots appear to enjoy close contact with the cool rock surface, while the stems revel in sunshine. It forms dense cushion-like masses of trailing stems some 9 inches to 12 inches in height, the flowers being borne in dense terminal heads. The buds are bright crimson, but when fully open the tubular, wax-like flowers are a glowing pink. It is a subject one enjoys having easy access to when in flower, and if a drift is arranged on the rock garden about a yard above the path, each passer-by may freely partake of its delicious fragrance.

D. rupestris occupies a similar position among the dwarf kinds as D. Genkwa holds among those of taller growth. It is a diminutive species, of slow growth, so that one rarely comes across a large-sized specimen. It is most suggestive of D. Cneorum in the flowers, but these are larger and even more waxy in texture. They are borne in clusters, and the colour is a glistening pearly rose pink. In its native haunts D. rupestris grows in fissures of limestone, in a soil that is described as peaty loam, while on rock gardens it appears to succeed best in a well-drained but cool site, planted in a compost of loam, peat and stone chips, and with plenty of rough grit in the soil. D. odora and its variety Mazelii are exceedingly popular as greenhouse plants, as, unfortunately, neither is hardy enough for outdoors, except in very favoured districts. The flowers of D. Mazelii are pinkish white and borne on short laterals, being in season from December till spring. The flowers of D. odora are in clustered terminal heads and appear in spring. D. odora and D. Mazelii are slow in growth, and are usually grafted on a commoner kind. They make pretty pot plants, and are best grown in a mixture of peat, loam and silver sand. The flowers are so intensely fragrant that a small plant is capable of filling a large room with its odour.

Coombe Court Gardens. THOMAS SMITH.

1.—STANDARD APPLE TREE CUT BACK READY FOR GRAFTING. 2.—THE GRAFTS INSERTED AND TIED WITH RAFFIA. 3.—THE GRAFTS COATED WITH CLAY TO ASSIST THE UNION WITH THE TREE.

GRAFTING STANDARD APPLE TREES.

The art of grafting is old, dating back to very remote times. It forms a very ready means of propagating stock of many plants that are slow on their own roots, and on this account is valuable in the nursery. Apart from that, it serves many other useful purposes. For example, a strong stock may give vigour to an otherwise weak-growing plant. On the other hand, it may have a dwarfing effect, as exemplified by the use of the Paradise stock for Apples and the Quince for Pears. Again, many Pears are only fertile when double grafted; for example, a Pear stock may be worked with, say, Beurré Clairgeau, and the desired sort, such as Gansel's Bergamot, grafted on that again.

4.—THE SAME TREE, SHOWING THE FIRST YEAR'S GROWTH OF THE GRAFTS.

Apart from the fact that stock and scion should have some natural affinity, and should, of course, be in a suitable state of growth—and in this respect the stock should generally be in a more forward state than the scion—the one great essential in successful grafting is the fact that the cambium layer, or inner bark of both stock and scion, should coincide and come in contact with one another. Of course, quick, clean workmanship is important as in all branches of propagation.

The simplest and most generally practised forms are whip, saddle and wedge grafting. In all three forms the stock and scion should be as nearly as possible of one size, so that their barks may coincide. Whip and saddle grafting are largely practised for working young fruit trees, also for Rhododendrons. Cleft and crown or rind grafting are generally resorted to when the stock is considerably larger than the scion. The latter method is very clearly illustrated on the opposite page. As shown, the method is usually applied to working stocks with large, woody branches. In cleft-grafting the ends of the stock are generally split with a chisel. The scion is then cut wedge shape to fit the split stock. As can readily be understood, this method has many objectionable features. The split wood is a fruitful source of decay, as it seldom gets properly covered with healing tissue.

Crown or Rind Grafting as illustrated is the best method for dealing with large stocks, and is a very quick method of replacing a poor or otherwise unsuitable variety of Apple or Pear, and for this purpose is generally practised in fruit-growing districts. The stock, naturally, should be healthy and fairly young. In the case of Apples in orchards it is best to work them with strong-growing sorts, such as Bramley's Seedling or Newton Wonder.

In preparing such trees for grafting, they should be headed down during January, leaving the stumps long enough to cut back to fresh wood when grafting. This may be done any time during the spring, when the sap is running freely, as it is essential that the bark should part easily from the wood. The tree figured was grafted about the middle of April.

The scions required should be selected during the winter, tied up and securely labelled, when they should be laid in at the north side of a wall or hedge. In such a position they remain in a dormant state until required. Grafting wax or clay will be required to cover the union of stock and scion and exclude the air. The clay should be well worked up with some soft meadow-hay; this binds the whole together and prevents it from cracking.

Everything being ready, the scions should be stood in a vessel of water to keep them fresh. The stumps of the stock should then be cut back the required distance with a fine pruning-saw, afterwards paring them smooth with a sharp knife. The scion should then be selected from one of the shoots, cutting it some six inches long. From 2 inches to 3 inches of its bottom end should then be pared off in a slanting direction; the practised hand will do it with one cut. A slit should then be cut about the same length in the bark of the stock in the desired position, raising the edges of the bark with the haft of a budding-knife, when the scion can readily be pushed into position and secured with a string of matting, as is shown in No. 1, where the stock is shortened back ready for grafting, with one scion shown in position.

No. 2 shows the same stock with all the scions inserted and tied in position, while No. 3 depicts the operation of covering the points of union with clay completed, during which operation a vessel of water should be handy to dip the hands in, else difficulty may be found in smoothing the clay over. No. 4 shows the same tree some eight months afterwards, where it will be seen that each graft has united and also made considerable growth. In this case the variety is Cox's Orange Pippin. No. 5 shows a stock worked with Bramley's Seedling. This example was grafted during the last week of May, and shows the tree pruned after the second season's growth. Until the scions unite with the stock and commence to grow, the stock will persist in throwing out shoots from latent buds. They must be kept rubbed off as they appear. J. C.

5.—A SIMILAR TREE TWO YEARS AFTER GRAFTING. NOTE THAT PRUNING HAS BEEN DONE AND THAT A NUMBER OF FRUIT-SPURS ARE FORMED.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Pruning.—Specimen Hollies, Yews, Portugal Laurels, also the more tender shrubs, may be pruned without any fear of damage from frost.

Lawns.—These should be swept over as often as may be necessary to remove worm-casts, using the heavy roller on them whenever time permits, a loose, spongy lawn being often badly marked by the mowing-machine during the summer.

Edgings.—It is usual to go over the edges of the paths at least once a year to keep them in good condition, and when there is a lot to do it should be taken in hand before the stress of work in other ways comes along.

The Flower Garden.

Gladioli.—These are almost indispensable, and for an early show of bloom in the borders they may be planted at once. Plant a few inches below the surface in well-prepared ground, not stinting a little manure for them, though this should not be of too rank a nature. For cutting purposes they may be planted in beds 4 feet or 5 feet wide, and for a succession, beds may be planted every three or four weeks till May. It is full early for starting them in boxes for bedding-out purposes.

Plants Under Glass.

Stove Climbers.—Many of these will be now breaking into growth, and such of them as have been kept dry at the root to prevent too early starting should now have a thorough soaking of water, after giving them a top-dressing of suitable soil with a little bone-meal or other manure added. If in pots, some may need repotting, and this should be done before they make much growth. Specimen Allamandas, Stephanotis, Clerodendrons and Bougainvilleas that may be wanted for a display later on in the season may be left in a cool house for some little time yet if it is thought they are likely to flower too early.

Potting Stove Plants.—This is about the best time to go through the general batch of stove plants, potting all such as require it, relegating any old and unsightly plants to the rubbish-heap, thus making more room for the younger and more useful ones, which from now will be making rapid growth.

Compost.—This should be of a fairly open nature, and if it consists of two parts loam, one of peat, one of leaf-soil and one of sand, with a little old mortar rubble, wood-ashes and bone-meal added, it will suit most stove subjects, including Ferns, though where a quantity of Crotons are grown, a little more holding compost should be prepared. I find they colour and grow better under rather more generous treatment than that given to the ordinary run of stove plants.

Chrysanthemums.—The early propagated varieties that may have been rooted singly in small pots should now be in fit condition for potting on. Three-inch or 4-inch pots are the best, and, providing the plants are well rooted, good firm potting should be practised. The stage or shelf in a cool house is a good position for them after potting, though a quite cold frame will suit them equally well providing every care is given to watering, airing and covering up at night in case of frost.

The Kitchen Garden.

Asparagus.—Beds that may have had the surface soil removed in the autumn and probably a dressing of manure given should now be covered up again by cutting down the sides of the beds and shovelling the soil from the alleys back on to the surface of the beds. If a good dressing of well-rotted manure, or even old Mushroom-manure and leaves, can be put on before the soil, so much the better, as it will secure a greater length of head before the shoots push through the soil, and, where people like blanched Asparagus, this will help matters considerably.

French Beans in Pots.—Plants in bearing should be top-dressed with good rich soil and manure, or, if the size of the pots does not allow of this, they must be kept well fed with manure-water. Keep up the supply by sowing fresh batches at short intervals.

Potatoes in Pots.—These, as they push through the soil, must be given a good light position, as attenuated top growth usually results in an indifferent crop.

Lettuce.—Plants raised from seed sown in the autumn may now be transplanted, choosing a time when the soil works well. A warm border is the best to secure an early crop, and if a single row is planted quite at the foot of a wall facing south or south-west, it will make a material difference to their earliness.

Fruits Under Glass.

Disbudding Vines.—Vines shut up early in the year and brought along steadily should now be in a forward enough condition for the first disbudding. Commence by taking off the shoots that are badly placed, and for the time being leave two that are showing bunches to each spur. These may be reduced to one when the size and shape of the bunch can be better judged.

Ventilation.—Earlier houses will need considerable attention as to air, the early morning being the most critical time, and I very much favour the system of giving a little before the temperature rises very much, increasing it, of course, in accordance with the weather conditions prevailing, always closing up in time to take full advantage of the sun-heat, which even at this season is none too plentiful.

Orchard-House Plums and Apricots should now be in full bloom, and on fine, warm days artificial fertilising should be practised, unless a hive of bees near by have found out the trees in flower, when they will probably do all that is necessary. Rather warmer conditions should now prevail, but at present no real effort should be made to push them along.

Hardy Fruit.

Cuttings of Bush Fruits.—To keep up a supply of young trees it is a good practice to put in a batch of cuttings every two or three years, and though rather late, they may still be made and inserted. Strong-growing shoots are the best, and I prefer to put them in on a somewhat shady border. Here they root readily, and if shifted to a more open position next winter they will soon make good plants.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Carnations.—Where Carnations were potted up and wintered in cold frames, they will now require attention as regards watering, although it is still advisable to keep them rather dry. The lights should now be removed entirely in fine weather preparatory to planting.

Hoeing.—As soon as the soil is in a satisfactory condition, Wallflowers, Forget-me-nots and other spring bedding plants above ground should have the soil between the plants stirred with the Dutch hoe.

Tropæolum speciosum.—This lovely climber is undoubtedly erratic, proving well-nigh indestructible in some cases, while in others no amount of coaxing will induce it to do well. So far as ascertained, however, the two essential conditions to success seem to be a free root-run with a cool bottom. When once it takes to a position, it should be left severely alone. The present is a good time to plant.

Wistaria chinensis.—There is a popular fallacy that this beautiful twiner is comparatively tender. I have had this plant under observation for over forty years, and have again and again seen it exposed to 25° of frost with impunity. For a high wall it is an ideal plant, and those intending to give it a trial should select a site for it now and, after excavating a pit, fill it up with a barrow-load of good turfy loam, with a view to planting a week or two hence.

The Rock Garden.

Planting.—Young plants which were rooted in autumn and wintered in frames should, if hardy, now be planted if the weather conditions are favourable. In the disposal of the various subjects their respective requirements as to soil and situation must be kept clearly in view. Where difficulty is experienced in finding room for real gems and it is deemed inadvisable to extend the rockwork, do not hesitate to sacrifice some of the coarser subjects, as they can probably be accommodated in beds or borders.

Plants Under Glass.

Liliums.—Where not already attended to, the potting of Liliums should no longer be delayed. Auratum and the varieties of lancifolium are all worthy of a place. Only from large, well-ripened bulbs can good results be obtained, and the price should only be considered in relation to quality. Peat is not essential, but a compost of turfy loam, fibrous peat, dried cow-manure and some clean sand is an ideal one. Always leave sufficient room for top-dressing. Keep dry and cool till the bulbs commence to grow.

Eucomis punctata.—This is a desirable bulbous plant for a cool house; moreover, it is very cheap. Pot up into 6-inch or 7-inch pots, using a compost of three parts turfy loam to one of dry cow-manure and a dash of clean sand.

Forcing Plants.—Later batches of bulbs and other forcing plants can now be brought on with very little fire-heat, especially during the day. Plants to be placed in rooms will stand longer in condition if stood in a cool house for a few days prior to being placed in the rooms. Many forced plants will be of future service, and should be cared for. Deutzias, Philadelphuses and several other shrubs should, when they have done flowering, be returned to heat to finish their growth.

Fruits Under Glass.

Figs.—Early Figs in pots will now require some rise in the temperature. They will also need an increase of moisture, both at the roots and in the atmosphere. Later trees may now have a night temperature of 55° and be syringed daily, but they should be kept fairly dry at the root till growth is active.

Tomatoes.—Autumn-sown plants will now have their fruits well set. To facilitate the development of the fruits, only a limited number should be retained, and after the requisite number have set, the leading shoot should be pinched and all laterals, on their first appearance, be rubbed out. Feeding may be commenced gradually.

The Hardy Fruit Garden.

Supports for Bushes.—Gooseberry and Currant bushes often get out of position and heel over. Where such a state of things exists, a sufficient number of forked stakes about eighteen inches in length should be prepared. The soil round the stem of the bush to be operated on should then be slackened with a fork, the bush placed in an erect position, and supported by the forked stake placed at an angle with one end pushed a little way into the ground. A piece of canvas should be placed in the fork to prevent friction.

The Vegetable Garden.

Rhubarb.—Growth will soon be active, and, as many things will claim attention soon, the Rhubarb quarters should now be forked over. The principal part of manuring the crop should have been attended to in the autumn by the application of a good top-dressing of farmyard manure. If this was omitted, however, it should now be remedied. In addition to this, a liberal dressing of soot should be given prior to forking over the ground.

Celery.—A pinch of seed should now be sown in a little heat for early use. White is superior to red, and at this period white only should be used. After long experience I can heartily recommend Wright's Grove White.

Spinach.—Autumn-sown Spinach will now be beginning to move, and will be benefited by a dressing of nitrate of soda or fowl-manure. The Dutch hoe should also be run between the lines to aerate the soil. It is well to bear in mind in this connection that dressings of nitrogenous substances are most beneficial in the early part of the season before the temperature has risen sufficiently to permit of the nitrification of the soil by natural processes.

Stored Roots.—If mild weather prevails, stored roots, such as Beet, Parsnips and Swedes, are apt to show growth and, consequently, become stringy. This is especially the case if a little sand or soil has been mixed with them. If they are gone over, decayed roots removed, and returned to their position, growth will for a time be arrested.

CHARLES COMFORT.
Broomfield Gardens, Dawidson's Mains, Midlothian.

CULTURAL HINTS ON NEW AND RARE PLANTS.

TREES AND SHRUBS.

(*Continued from page 87.*)

Rhododendron lutescens, a yellow-flowered species, growing to a height of 8 feet or 10 feet in China, succeeds in this country in a rather sheltered position in cool and moist soil free from lime. The necessity for placing it in a position sheltered from the early morning sun is noticeable in spring, for it starts into growth rather early and the young shoots are liable to injury by frost, especially if bright sun strikes them before the frost has disappeared.

Rubus biflorus quinqueflorus is a strong-growing Bramble suitable for the wild garden. Its chief attraction lies in its vigorous stems, which are covered with a white or glaucous bloom. The best results are obtained by planting in rich loamy soil, and by removing the old shoots each year when the young ones are 1 foot or 2 feet high. Increase by seeds or by bending the points of the branches over to the ground and covering them with soil, when roots and young shoots will be formed.

Ilex Pernyi.—This new Chinese Holly gives promise of becoming an exceptionally good tree for planting as a specimen evergreen, while when common enough it will doubtless make a good hedge plant. Planted in well-drained ground of a loamy character it makes rapid progress, growing into a shapely specimen with little or no pruning. Cuttings inserted in sandy soil in a close frame during July root as easily as those of the common Holly, while it may also be grown from seed. It is quite hardy.

Cæsalpinia Gilliesii is one of the few South American woody plants that may be grown out of doors in the warmer parts of this country. A very rare plant, its interest centres in its delicately-divided pinnate leaves and large inflorescences of golden flowers with bunches of bright red stamens. It should be given a position against a warm wall with a south or south-west aspect, and other necessaries are well-drained loamy soil and protection for the base of the trunk in the event of frost.

Picea breweriana.—This Californian Spruce is certainly one of the rarest trees under cultivation, not only in this but in other countries. Found in inaccessible parts of the Siskiyon Mountains, it has only appeared in our gardens within the last fifteen years. A specimen about four and a-half feet high may be seen near the Pagoda at Kew, growing amid Ericas and other shrubs where the soil is sand with a little peat. The healthy appearance of the plant points to those conditions being suitable for its growth.

Sophora viciifolia, though introduced less than twenty years ago, has made many friends by reason of its pretty white, violet-tinted flowers, which appear in profusion during late May and June. At home in light, loamy soil, it succeeds admirably in an exposed position on the lawn, as a wall plant, or in a shrubbery. Cuttings inserted in pots of sandy soil in July root well, while it is easily raised from seed. As it dislikes root disturbance, the plants should be placed in permanent situations while small.

(*To be continued.*)

HOW TO GROW HOLLYHOCKS.

There are many who are deterred from growing these grand plants by the prevalence of the disease, or, more properly, the fungoid pest, that is likely to infest them, the same pest attacking more or less all the members of the Mallow family, of which the Hollyhocks are the most important of the garden representatives. But one may say that Hollyhocks are indispensable in the late summer and autumn, and they cannot be let go lightly. In strong soils they are nearly always healthy, a plant lasting for several years, throwing up several grand spikes and being well clothed with foliage to the ground. The difficulty arises in the lighter soils, for the Hollyhock is what gardeners call a gross feeder, rejoicing in a soil either of loam or lime, in any case rich and deep and also well manured. There can hardly be a place whose conditions are worse for Hollyhocks than the present writer's garden—on a sandy upland, which naturally produces only Heath and Gorse. Here all flower-borders have to be artificially made; but where Hollyhocks are to grow it is made deeper still, the sand taken out to a depth of 3 feet and the place filled with the best stuff we can get together, with the ashes of the fire-heap plentifully admixed and some good manure from 1 foot to 18 inches down. It is true that the plants always lose their lower leaves and are not free from the disease (Puccinia malvacea); but as they are necessarily near the back of the border, it is a simple matter to make sure that some group of plants, of close habit or strong foliage, shall be just in front. The well-fed Hollyhocks will send up fine spikes and the defect of bareness of the lower stem will not be apparent. The flowers will be so good that their absence would be a grievous loss to the garden, although they must not be expected to be so vigorous as they would be on a soil of a stronger nature. The pest can be kept in check, though not absolutely abolished, by frequent syringing with a weak solution of permanganate of potash as soon as the leaves have made some growth, or with any of the anti-fungoid preparations.

For flowering the same year, Hollyhock seed may be sown in heat as early as the first days of January; but it may be sown a month or six weeks later if the plants are pushed on as quickly as may be. There is a good deal in getting a strain of seed that will give the right-shaped flower. The florists' Hollyhock, so fully double that the whole flower is the same rounded shape all over and is equally tightly packed with crowded petals, is not the best for the garden; in fact, instead of being a beautiful flower it is rather an ugly thing. The best kind has a distinct guard petal or outer petticoat, and the rising centre is only moderately filled. In this case the colour also is much enhanced by the play and transmitted glow of light and tint within and between the inner petals. All this is lost in the round, tight flower, where the light can only play upon the outer surface.

There is much beauty of tender colouring among some of the single Hollyhocks, but of these the ones that are easiest to grow and are the most generally useful are the varieties of Althæa ficifolia, the Fig-like shape of the leaf accounting for the specific name. The best are those of sulphur and white colourings, which should be secured if possible, or there will probably be a preponderance of flowers of a poor, washy, purplish pink. But if mixed seed is sown, some will be sure to be yellow and white, and seed for further use can be kept from these.

G. Jekyll.

ACETYLENE GAS GENERATOR REFUSE FOR GARDEN CROPS.

[*In Answer to Several Correspondents.*]

The question of the usefulness or otherwise in gardens of the refuse from the acetylene generator plants is very frequently raised, and, in response to numerous requests from readers, we give the following particulars which we published several years ago. Calcium carbide is made by causing lime and carbon to combine together in an electric furnace, so that a compound having the chemical formula CaC_2 is formed. When water is brought into contact with this substance, certain chemical reactions immediately take place, with the result that acetylene gas is generated and a white substance remains mixed and partly dissolved in water. This is shown by the following chemical equation.

$$\underset{\text{(Calcium carbide.)}}{CaC_2} + \underset{\text{(Water-)}}{2\,H_2O} = \underset{\text{(Acetylene.)}}{C_2H_2} + \underset{\text{(Slaked lime.)}}{Ca(OH)_2}$$

The white substance is slaked lime, and if it were not for the presence of some impurities, derived mostly from the form of carbon used in the manufacture of the carbide (that have, of course, been ignored in the equation), this slaked lime would not differ in the least from that obtained when fresh burnt lime is slaked with water.

On account of the presence of some impurities in the carbide, however, the refuse is likely to contain certain compounds of sulphur and lime (sulphides), and occasionally some phosphide of lime, a compound of phosphorus and lime. Both of these compounds are injurious to plant-life, but the latter is not likely to be present in sufficient quantities to do any appreciable damage, and the former soon alter in composition in the soil and become innocuous. Thus the refuse may be used with advantage upon soils, though it should first be exposed to the action of the air for a time before it is allowed to come in contact with roots. It may be spread on the soil in the autumn at the rate of about half a bushel to the square rod, as evenly as possible, and allowed to lie for a time before it is forked in. Used in this way it will have the same beneficial effects upon the soil as a dressing of slaked lime applied in the same way, counteracting sourness of the soil and mitigating the evils arising therefrom, and, in the case of clay soils, causing the minute particles of clay to coagulate and therefore making the pores in the soil larger and the soil itself easier to work, more open to the air and, as a result, more easily warmed by the sun in the spring.

Scientist.

LILIES OF THE VALLEY.

Lifting and Replanting Old Crowns.

Lilies of the Valley are often planted in the borders and then left there untouched for many years, with the result that the spikes of flowers become fewer each year and hundreds of crowns fail to flower at all. When growing in the woods in a natural state, these Lilies get an annual top-dressing in the form of decaying leaves and other matter; but it is only a light covering, and not a heavy one such as is often put on by the inexperienced cultivator. I have seen plants ruined

through injudicious surface mulching. It is not a wise plan to disturb the plants too often. When well planted in good soil, they will continue to grow strongly and flower freely for a number of years. I have grown half an acre of Lilies of the Valley in various parts of a garden where the soil also varied, some being light and a portion clayey, and always found the crowns to do well when not overcrowded. The overcrowding is often caused by the great number of small crowns being mixed with the large ones. An unprofitable bed should be dug up, the crowns of the plants assorted and replanted in deeply-dug soil made moderately firm. This work may be done at once. Directly all the leaves can be cleared away without forcible pulling, lift the crowns and at once pick out the strongest, keeping both roots and crowns moist. There is nothing better for this purpose than damp sand, as it also excludes air.

Only trim off any bruised roots, and replant the best crowns 9 inches apart in rows 1 foot asunder. This is not too far apart to plant where it is intended that the bed should remain undisturbed for a number of years, as the roots soon spread and the big leaves entirely hide the soil. The weaker crowns should also be planted, if the stock is limited, in another border, allowing space in proportion between them. In two years' time these secondary crowns will have yielded strong ones, bearing big flowers on stout stems. An annual top-dressing of sifted leaf-soil is highly beneficial in the case of all the beds. One often sees the roots actually bared through the raking off of rubbish in the autumn, and when no effort is made to cover them, the crowns degenerate rapidly. Some cultivators believe that Lilies of the Valley can only be successfully grown in certain positions, but I have proved that they will succeed in any aspect if treated as suggested above.

AVON.

THE FRUIT GARDEN.

WOUNDS ON FRUIT TREES: THEIR DANGER AND PREVENTION.

IN the social and political realm of life the aged are apt to regard the past with feelings of regret, and to talk and write of the good old days. So those of us who have had a considerable experience of fruit-growing are inclined to look back and regret the days that are past, when, at least so we think, it was an easier task, and the difficulties that we encountered were not so numerous nor so hard to overcome as they are now. In no direction is this so striking as in the increasing virulence of the fungi that attack the wounds of trees. Despite all that has been written and said during the last twenty years concerning canker, the ravages due to the fungus that causes it, Nectria ditissima, are in no way abated; while the last decade has witnessed terrible strides made by that awful scourge, silver-leaf disease, due to the fungus Stereum purpureum. Since there is no doubt at all that the latter invariably first obtains an entrance into the tissues of the tree through a wound, and, moreover, it is pretty well established that the majority of cases of canker are started in the same manner, it becomes a question of paramount importance, first, to reduce the chance of wounds, accidental and otherwise, on a tree to a minimum, and, secondly, to so protect such wounds which may be made that the fungus spores may not find an entrance therein.

In a strict scientific sense, a wound is any breaking or abrasion of the surface tissue which is unprotected by palisade cells, or callus. There are many wounds which can be prevented, and as things are at present, must be prevented if the trees are to be kept in a healthy state. There are the wounds too often, alas! caused in staking the trees soon after they have been planted. Too many people allow the stake to project into the head of the tree, so that the boughs chafe on it when moved about by the wind, and a wound soon results. Then, again, even if the trees are properly staked at first, they sometimes break or something else happens that the tree breaks loose; then, if it is not soon seen to, the inevitable result is that it is dashed against the stake and injured. In the case, too, where no staking is done at all, after a little while the tree gets loose at the top of the ground, and when a spell of frost comes and makes the surface soil hard, the bark of the tree is soon chafed sore in rubbing against it. Again, in orchards or plantations where cultivation is done by horse labour, unless the ploughman is specially cautioned against it, he will get too close to the trees and allow either the horses' harness or the draw-bar of his plough to break the bark of the trees in many places. A further fruitful source of wounds in trees, and wounds, moreover, which are extremely slow to heal, is the practice of shooting among them, either for pleasure or in order to kill birds or vermin which are causing damage. Wounds, too, are caused in various ways when the fruit is on the trees, either by allowing the branches to break owing to lack of support when heavily loaded with fruit, by carelessness in placing the picking ladders, so that the greatest weight is put upon the tree instead of on the foot of the ladder, or, when the trees are large, by scrambling about in the branches in boots shod with heavy nails.

So much for preventable wounds, but there are others, those caused by pruning, which must of necessity be made for the well-being of the tree. The problem, therefore, is to provide the best means of protecting these wounds, either naturally or artificially. An examination of a wound of a few months' standing, say, where a bough has been removed, will show that Nature is hard at work trying to protect the wound, and that a layer of new tissue is creeping over it from the bark inwards in the effort to cover it up. No growth at all takes place from the wood, only from the inner bark; consequently, if the wound is a large one, it is a matter of considerable time, even years, before the new tissue finally creeps all over and the wound is entirely covered up. What we require to do is, first, to make it as easy as possible for the healing process which the tree itself carries out; and, secondly, so to protect the larger wounds that no fungus spores may obtain an entrance during the interval before the wound is finally protected by new bark.

Good pruners have always insisted on any saw cuts—that is, where branches have been removed by a saw—being shaved with a knife all round the bark and a small portion of the wood adjoining, believing that the bark healed over more quickly when this was done. Perhaps, as with the old notions in connection with planting, the people at Woburn will prove that all such care is a waste of time; but at present it will certainly be advisable for all pruners to adopt the practice, and, moreover, do their work as far as possible with a good sharp knife, without having recourse to secateurs or other mechanical aid, since, after all, there is nothing which makes such a clean cut as a good pruning-knife.

Protecting Wounds.—With regard to the protection of the wound, after considerable investigation and some amount of trial I have come to the conclusion that the course advised by Professor Bailey in America is the best, viz., to paint the wounds with either red or white lead paint. This should be made with pure linseed oil free from adulteration, and preferably without the addition of turpentine. I have found that paint made thus will set quite hard, and will not flake off the wounds when growth takes place during the following summer. On one occasion I used red oxide paint, mixed for painting ironwork, in mistake for the red lead; but no ill-results followed, and we found, indeed, that this set harder than any of the others. Stockholm tar can be used, but it is necessary to see that it is pure, otherwise harmful results may ensue; but gas-tar should, in my opinion, never on any account be used, even on the largest or oldest trees. It is always a matter of uncertainty how it will behave and whether it will cause injury, and I cannot see any necessity for running the risk, as one has excellent materials in the paints just mentioned. For the last two or three years now I have used such paints, with quite good results, and have found that they have little or no retarding effect upon the self-healing process of the tree, the bark creeping over the wound much as if there were no paint there. To sum up, avoid as far as possible making any unnecessary wounds on the trees; in pruning make the cuts as clean as possible, so as to assist the tree to heal them; and, lastly, protect all wounds from 1 inch in diameter upwards with either white or red lead paint as pure as possible, but without the admixture of turpentine.

F. HAMMOND.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

TROPÆOLUM SPECIOSUM (*J. K.*).—Your better way would be to purchase roots and plant them near a wall, or in some north-western exposure where the plants could ramble amid Holly or like bushes. The plants appear to prefer a sandy soil with much fine leaf-soil incorporated therewith, the whole being made moderately rich. Cover the roots not deeper than 2 inches with the soil. The fleshy roots now obtainable may be had very cheap from most of the hardy plantsmen. Seedlings may take two years and even longer before flowering.

PLANTS FOR A LONG BORDER (*Constant Reader*).—Either of the following subjects would do for your centre bed between the two red Geraniums: Calceolaria Golden Gem, white Geranium Queen of Denmark, or Marguerite Mrs. F. K. Sander. The same Marguerite would do very well for your window-boxes; some of the most successful window-boxes noted last year were composed principally of that plant. Sweet Peas would be likely to thrive in the tubs you mention, or you could plant climbing Nasturtiums in them. It would not be wise to plant anything between your rows of Antirrhinums and Godetias, but you might plant white Stocks in front and a row of Fairy Queen Begonia if you think there will be room.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Cucumbers from South Africa.—An attempt has recently been made to ship Cucumbers from Cape Colony, the first consignment arriving at Covent Garden Market early last week. These were sent over with a shipment of fruits, but when they reached the market were quite unfit for use. Evidently different treatment to that required by Cape fruits is needed if Cucumbers are to reach us from there in good condition.

An Early Rhododendron.—The present winter has been unusually favourable for the early-flowering Rhododendrons. In the Rhododendron Dell at Kew there is a large bush, 9 feet in height, of the variety George Cunningham, well clothed with trusses of blooms. This variety is a fitting companion for Noble's Rhododendron (R. nobleanum), which also is flowering freely close by. The variety George Cunningham was raised, many years ago, in the nurseries of Messrs. Cunningham, Fraser and Co., Comely Bank, Edinburgh. The trusses of flowers are moderate in size; the individual blooms, rather closely arranged, are white, liberally spotted or blotched with chocolate-coloured markings.

Pruning Lilacs in London.—Those who have visited the Victoria Embankment Gardens during the last week or two have had an opportunity of seeing how not to prune Lilacs. The thin, weedy-looking shrubs that border the roadway are mostly Lilacs, and just recently they have undergone a process of thinning that is quite remarkable in its way, and entirely opposed to good gardening. A few lessons in the pruning of shrubs of any kind are sorely needed by those who have been doing the work. Lilacs are, even if properly treated, quite unsuited for these gardens, and they should long ago have been replaced by more suitable shrubs. But as they still remain, it is difficult to understand why they should be mutilated in this way and made to look even more incongruous than they were wont to do.

Sweet-Scented Annuals.—The note on the Night-scented Stock which appeared last week has brought requests from several readers for the names of other annuals that possess this precious attribute in marked degree. In addition to the well-known Mignonette and Ten-week Stock, we have pleasant memories of the fragrance of Nicotiana affinis, or Sweet-scented Tobacco, Martynia fragrans (a rather tender plant), Sweet Sultans, Woodruff, Indian and Japanese Pinks, Schizopetalon Walkeri, Candytuft and, of course, the ubiquitous Sweet Pea. An annual that is not usually credited with fragrance is the common Tropæolum, or Nasturtium. Its perfume is not at all pronounced, but a vase of flowers shut up in a room for a few hours will emit a perfume that is, in contrast to that of many flowers, quite refreshing. How many of our readers have noticed this?

Royal Agricultural Society's Horticultural Exhibition.—The Royal Agricultural Society of England is sending out a very attractive schedule of prizes to be competed for in the horticultural section of their annual show. This year the show will be held at Bristol, the horticultural section opening on July 1 and closing on July 4. Entries should be sent to Mr. Peter Blair, Trentham Gardens, Stoke-on-Trent, on or before May 31.

A Good Winter Green.—Although green food has been plentiful this winter, thanks to the mild weather, it is not always so, and it may be useful to draw attention to one variety that is in season just now. This is Russian Kale, or Chou de Russie. It is a hardy, elegant-looking plant, the much-lacerated leaves having quite a unique appearance. Seed should be ordered now for sowing towards the end of April, the young plants being transplanted to firm ground when large enough. A bed of this Kale will give an abundance of fresh, delicious young shoots at this season, when there is usually a scarcity of most kinds.

Winners of Acrostic Prizes.—In the list of prize-winners published on page 91 of last week's issue, we regret that a mistake occurred. On investigation we find that the Rev. J. E. Gardiner of Eversden Rectory, Cambridge, who sent in solutions under the pseudonym of "Nemo," correctly solved Nos. 1, 4, 6 and 7, and is therefore entitled to share the first, second and third prizes with Mrs. Macalister and Mr. R. P. Brotherston. Under the circumstances we shall also divide an amount equal to the third prize between the other competitors whose names and addresses we published last week.

Primulas at Clandon Park.—Passing through this beautiful Surrey park quite recently, we observed a little copse, in which Primula denticulata and its improved form, cashmiriana, with rich violet purple blooms, were flowering to perfection. A wooded dell on heavy soil, in which tree growth is not too dense, is obviously an ideal home for Primulas, and quite near to this spot may be seen the wild Primrose growing naturally. The beauty of the scene is all the more appreciated, as a public footpath runs through the wood. Many other Primulas are naturalised in the woodland at Clandon Park, but Primula denticulata cashmiriana, which is becoming more and more popular, is worthy of special note.

The Pavilion at Kew Burned Down.—Readers in all parts of the world, and Kew men in particular, will learn with regret that the tea pavilion, which stood near the Pagoda in the Royal Gardens, Kew, was burned down in the early hours of February 20. The pavilion was built about twenty-five years ago and was of rustic appearance, so as to be as far as possible in harmony with the sylvan surroundings. A card found near the conflagration was signed "Two Voteless Women," and we understand that two women are in custody charged with the offence. Such wanton acts of mischief call for no comment.

CORRESPONDENCE.

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

Rose General G. R. Horne.—I cannot trace this Rose in the growers' catalogues that I have before me. I have been promised by a friend some buds of this for budding next season, and he tells me that he had two plants sent to him along with others by a grower, whose name he has, unfortunately, forgotten. I should be glad, therefore, if you or some of your readers could give me information about it. From what I saw of the plants, the Rose appears to be a strong grower.—B. A. Bell, *South Norwood.* [We know of no Rose bearing the above name. Perhaps some reader will kindly let us know if such a variety is in cultivation.—Ed.]

Diascia Barberæ as a Perennial.—I constantly see in various seedsmen's catalogues this plant in the list of annuals; but in this garden, which is in by no means a specially warm situation, it has proved itself a perennial, flowering abundantly during the late summer and autumn from a seed planted seven years ago. It increases from underground roots, and is now a patch 3 feet by 2 feet 6 inches, or thereabouts. The flowers are shaped like a miniature spurred Aquilegia, and are of a pretty shade of copper colour.—V. M., *East Devon.* [Our correspondent's experience of this pretty South African plant is interesting and valuable, proving that, given certain conditions, it is of strictly perennial duration. Seven years is surely ample time, and the development of the plant to a patch 3 feet across is conclusive. We trust the above letter will tempt others living in favoured places to regard it as a perennial. Generally, however, the plant has to be regarded as an annual as a matter of convenience. Other South African plants of our acquaintance do not die as a result of flowering and seeding, but perish because they cannot endure the cold and vicissitudes of our English climate.—Ed.]

Apple Lane's Prince Albert for Dessert.—The reference to this variety in "Notes of the Week," issue February 15, is very timely. I have always had a strong liking for this Apple, it being a grand all-round variety. At this time and as late as the early part of May I used it as a dessert variety, and it was greatly appreciated. In March and April my fruits used to assume a deep yellow tinge on one side, and while in that condition were most acceptable for dessert. Amateurs should always include a few bushes in their collections, but they should not allow the trees to bear much fruit until they are well established. Many specimens are stunted through premature cropping.—G. G.

Hardiness of Campanula isophylla.—Whether this plant is hardy or not is very much a question of locality, though more particularly of the position individual examples occupy. For instance, in the drier conditions the wall garden affords, in the deep-running crevices of the rock garden, or in window-boxes—almost anywhere, indeed, where it would be raised above the ordinary level, and therefore well drained and warm—the plant may be regarded as generally hardy, unless in very severe winters. If, however, the plant is colonised in the soil of the rock garden or grouped in the border in the ordinary way, it will perish before the winter is half gone, even around London. At the same time, it should be stated that it is not suitable for the border. The right place for a plant with its mantling habit of growth is the higher parts of the rock garden, where its free and late flowering would render it unique. In a window-box or hanging basket or pot much of the beauty of the plant is revealed, but in so cultivating it its value to the rock garden has been almost entirely overlooked. For this latter purpose we have nothing so good or so late flowering, and plants which give such sheets of colour are worth making much of. My hybrid Campanula Profusion has isophylla blood in its veins, and the same conditions in wall or rock garden suit it exactly. In garden soil it is not reliably hardy, and, moreover, is not suited thereto.—E. H. Jenkins.

THE NEW WHITE BEDDING CROCUS KATHLEEN PARLOW.

Lilium Brownii leucanthum.—The fine group of this Lily shown on page 94 of the last issue is, unfortunately, described as L. Brownii, omitting the varietal name. The photograph was taken at Kew in 1905 from a group of bulbs bought in 1904 from Messrs. Veitch and Sons as L. Brownii leucanthum. This is the Lily that Wilson describes as L. Sargentiæ. It is a taller plant than the typical L. Brownii and resembles L. sulphureum somewhat, both in the yellow tint of the outside of the flowers and in its habit of producing bulbils in the axils of the leaves.—E. A. Bowles.

Serious Losses Among Roses.—I note in The Garden of February 8, page 66, Mr. C. Blair's remarks on Roses at Preston House Gardens and the damage done by the frost in November of last year. In the gardens here and the surrounding district the majority of climbers are killed to the ground, while dwarf Roses, with the exception of the Lyon, have suffered less. On a pergola built of stone pillars and Oak beams some of the varieties have escaped injury, viz., Leuchtstern, Rubin, Félicité Perpétue, Bennett's Seedling, while American Pillar, Gardenia, Dorothy Perkins, Lady Gay and many others are completely spoilt.—C. L. Cawkell, *The Gardens, Angerton, Morpeth, Northumberland.*

Mysterious Disease of Hyacinths.—I was greatly interested to see in The Garden of last week Mr. J. Duncan Pearson's comment on the mysterious disease of Hyacinths and Daffodils, as it has revealed to us the cause of our Roman Hyacinths failing this season. Out of our whole batch none of them made any roots worth speaking of, and those they did soon decayed. The bulbs were potted up in September and plunged in ashes, and on examining them in November were found to have made about one inch of top growth, and the roots which they had made were all decayed; yet the bulbs in themselves seemed quite good. We were quite puzzled as to the cause, because all our Narcissi and the named varieties of Hyacinths have come through all right and have bloomed splendidly. Naturally, we put it down to bad bulbs, and drew the nurseryman's attention to it. His remark was that his bulbs were just the same, and he could not account for it.—F. C. Willie, *Lindfield, Sussex.*

Puya chilensis Flowering at Cambridge.—This handsome Bromeliad, which for some time has been an attractive feature in an outside border in front of the plant-houses at the Botanic Gardens, Cambridge, and is said to be only equalled in the Scilly Isles, is now coming into bloom. The spike was first noticed on February 5, when it had forced its way through the glass light which is placed over it in the winter, being at that time 20 inches high, and has since grown at the rate of about three inches a week. It is 12 inches in circumference 10 inches from the tip, that being larger, and has every appearance of bearing a fine inflorescence, probably fully developed about May or June. The plant is 6½ feet high and about seven and a-half feet through, and has been growing outside now for some years, but, as previously mentioned, covered with a glass light in the winter, while in very severe weather mats are hung in front of it. The leaves are from 3 feet to 4 feet long, with hard, hooked spines on the margin. Up till 1910 the plant was one huge rosette; then it commenced to send out branches, which one would expect to come after, not before, flowering, unless the spike has been forming for some considerable time.—F. G. Preston.

FOUR GOOD ANTIRRHINUMS.

Left: Bright Pink. Centre: top, Fire King; bottom, Orange King. Right: Rich Apricot.

(Sutton & Sons).

Hudson & Kearns, Ltd., Printers, London, S.E.

Peas During 1912.—Although last year was not a particularly good one, all our culinary Peas did admirably. Perhaps some readers of The Garden may like to learn of our method of cultivation. We dig or trench the ground in winter in the ordinary way after it has been well manured. As the time for sowing approaches, we dig trenches as for Celery and 8 feet apart, and dig in a good lot of farmyard manure. The Peas are sown thickly in the trenches, and it is very rarely they require watering. Our chief varieties last year were Little Marvel, Advancer, Alderman, Essex Star, Model Telephone and Victoria. I am very reluctant to trust new varieties for main crops, hence the old varieties. From two quarts of Essex Star sown we gathered upwards of twelve bushels of pods. All other kinds did well in a lesser degree.—John Beams, *Kensington and Chelsea School, Banstead, Surrey.*

Rose Rayon d'Or.—Your correspondent, Mr. H. E. Molyneux, on page 81, issue February 15, groups this Rose with the Hybrid Teas, but I contend it is so very distinct from that tribe that its inclusion among the Hybrid Teas would be an error. One has only to look upon its lovely foliage and prickly growths to see at once that it belongs to a new race; and why not call this race Rosa pernetiana, as most authorities are doing? I am as much averse as anyone to multiplying groups; but when a new race is so very evident, as in the case of Roses such as Arthur R. Goodwin, Rayon d'Or, Juliet and Beauté de Lyon, to say nothing of the beautiful varieties M. Pernet-Ducher will soon be sending us, I think it is quite time for our National Society to recognise the group. I admit there are already two sections of this new group, the one more closely resembling the sturdy Soleil d'Or and the other the Hybrid Tea; but I am convinced all thoughtful rosarians will see the wisdom of recognising the new group.—Danecroft. [We notice that some of our leading Rose nurserymen are listing Rayon d'Or as a Hybrid Tea, but it is, as our correspondent points out, one of a quite distinct type.—Ed.]

The Multiplication of Sweet Pea Names.—Your correspondent "Amæthon," page 60, February 1 issue, waxes eloquent on this subject, and, like me, he wants something done. The question is, "What?" My latest suggestion is that two lists should be compiled, one of synonyms and one of too-much-alikes. Of the latter, no two, under existing rules, should be shown in one exhibit; of the former, all the varieties in any one class, *e.g.*, crimson, cream, and lavender, must be exhibited under one name chosen by the floral committee of the National Sweet Pea Society. Decorator, which received an award this year, is a step in the right direction. But the question is not so easy as it looks. If it were a question of colour only, it would be easy enough; but there are other things to consider. "Amæthon" seems to think that none but a committee of amateurs can give a reliable and unbiassed decision on the question. Why is this? If such men as Cuthbertson, Sydenham, Wright and many more cannot be trusted to decide on merit only, who can? I might add the names of Aldersey and several others. For myself, as a member of what may be called the "amateur" class who, being obliged to earn his living, has taken up Sweet Pea culture with that object and from an inborn love of flowers, I may say that I have complete confidence in the official members of the National Sweet Pea Society. I believe that they are honestly desirous of giving a fair and just decision on all matters that are brought up for their consideration, and for this reason probably hesitate to "rush in where angels fear to tread." Theoretically, I would rather see these questions decided by a committee of amateurs; practically, they would probably be a hopeless failure.—T. H. Dipnall.

Three Good Hyacinths.—Somehow, I cannot quite give them up. Old associations are very clinging. Last autumn I bought one or two "pigs in a poke"; one of them, Oranjeboven, is very charming and of an uncommon colour among Hyacinths. My Dutch dictionary tells me that the name means extra or very orange, and so it is. There is a deeper line down the middle of each petal, with the edges much paler. I have consulted my Colour Chart, and found the dark stripe to be 76·1 and the lighter outsides 75·1 or thereabouts. The bells are not too crowded on the spike. A well-tried old friend is the pretty pale pink General de Wet. I like the curl back of the petals and the loose arrangement of the flowers on the stem. Sir William Mansfield has been a stranger for a considerable time, but I have renewed his acquaintance this year. The colour is a reddish mauve, and the type of flower and spike rather recalls Gigantea. It is just a wee bit weak on the stem, and needs a friendly support. "Quite a lady's shade," I was told yesterday.—J. Jacob.

Sweet Peas as Bedding Plants.—I was greatly interested in reading the article under this heading in The Garden for February 1, page 56, as I have used the Sweet Pea for beds since 1902. During that year the bed was a large Maltese cross, and the colours used were red, white and blue. The centre was red, and the arms were white and blue alternately. When the planting was completed, a wire frame the exact size and shape and covered with netting was placed over the bed. As the plants advanced in growth they were taken through the netting (which was about six inches above the soil) and trained within their allotted space. The training, pinching, tying and pod-picking required great attention; but when the plants were in full bloom the effect was charming. For convenience of training and tying, a four-legged stool or form was thrown across the centre of the bed; then a broad plank was stretched from the grass to the stool, from which plank any part of the bed could be reached with ease.—J. Brown, *Balminnoch, N.B.*

Applying Manure-Water to Roses in February.—I was much surprised to read Mr. T. Stevenson, in "Gardening of the Week" of the issue February 8, recommending the above practice. During a fairly long experience I have never seen nor known manure-water given at this time of the year, nor can I recall to mind having seen it advised by other writers. True, it is carried out in late autumn, and even early winter when mild, for fruit and Rose trees; but can it be wise to give manure-water just now? To the writer it seems more likely to be injurious than in any degree beneficial, but I may be wrong in so judging and am open to correction. Most rosarians, I feel sure, are anxious just now that their plants should remain as quiet as possible; but manure-water is always admitted to have an exciting or stimulating effect upon growth. There is another month of dangerous weather possibilities, and, owing to the mild weather we have had, Roses are already too much advanced for the time of year. Is there any proof that Rose trees in their present stage of growth need or can avail themselves of manure-water, or that the soil will retain it until they stand in need?—C. Turner.

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of The Garden offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First Prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in The Garden. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed P.O.P. prints must be sent, and each should be on a mount with not more than half an inch margin.
5. All photographs must be sent to arrive at The Garden Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in for competition will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed for the purpose, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken to return them uninjured.
7. The Proprietors of The Garden reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

CROCUS KATHLEEN PARLOW.

This new Crocus is an exceptionally bold-looking and handsome bedding variety with pure white flowers. The plant is a very free bloomer. It was exhibited by Messrs. Cartwright and Goodwin of Kidderminster at the last fortnightly exhibition of the Royal Horticultural Society, when it was the only novelty brought before the floral committee to receive an award. It was granted an award of merit.

FORTHCOMING EVENTS.

March 4.—Royal Horticultural Society's Meeting and Bulb Show (two days). Lecture at three o'clock on the first day by Mr. W. H. Divers, V.M.H., on "The Spring Flower Garden." Scottish Horticultural Association's Meeting. Croydon and District Horticultural Mutual Improvement Society's Meeting.

March 6.—Linnean Society's Meeting.

THE ROSE GARDEN.

A SIMPLE GARDEN SEAT.

MANY pleasing features of a garden can be made in the simplest way, and the garden seat shown in the accompanying illustration is one of these. The seat itself is of a simple character, constructed of slips of wood about an inch and a-half across and about an inch thick. It is set on posts with a pavement of flat stones underneath and in front, and is covered with an arching bower, composed of branches from an old Ash tree which stood in the field from which the garden was formed, and which had to be cut down for the sake of the garden. These were selected so as to form arches over the seat, and they have been covered over with the lovely Blush Rambler Rose, one of the freest and most vigorous as well as one of the most charming of all Rambler Roses. It makes strong shoots annually, and these, if just shortened and the weak and oldest wood removed, give each year a mass of lovely blush flowers. These are comparatively small and semi-double, and are borne in huge bunches. The illustration, unfortunately, does not show the whole of the flowers.

Dumfries. S. ARNOTT.

A SIMPLE GARDEN SEAT. THE ARCH IS COVERED WITH ROSE BLUSH RAMBLER.

SOME OF THE NEWER ROSES.

TEA ROSES.

(*Continued from page* 92.)

MANY of the Teas make fine decorative garden plants, especially the more hardy varieties of the family, such as G. Nabonnand, Mrs. Herbert Stevens, Mme. Antoine Mari, Jean Dupuy and Souv. de Pierre Notting, to name only a few; and in the South and South-West they might with advantage be much more freely planted. A good Tea is the most beautiful Rose we have. There is an additional refinement about the flower that other Roses lack, and the extra trouble that may be necessary for their culture is so slight, taking the form of earthing up during the winter, that one is amply repaid. I have already dealt with the newer exhibition varieties, and the garden or decorative list is not a long one, as few of the hybridists make a speciality of Teas.

Lady Hillingdon (Lowe and Shawyer, 1910).—This, until the appearance of Sunburst, was our deepest yellow garden Rose, and I am not sure that it is not still entitled to that distinction. It has fine long pointed buds of a deep apricot yellow, but the open flower is apt to be thin. A fine Rose on a standard or half-standard, but it hangs its head somewhat, which is its only fault. A good grower, mildew-proof and fragrant. Awarded the gold medal of the National Rose Society.

Little Dorrit (Paul and Son, 1912).—This I described under "Hybrid Teas," to which class I believe it belongs. It is of China-like growth and a very pretty and promising variety, but it appears to be catalogued as a Tea in most lists.

Miss Alice de Rothschild (A. Dickson and Sons, 1910).—This is a good strong grower, almost Hybrid Tea-like in growth, but with a Maréchal Niel perfume that may or may not denote its parentage. A free-flowering yellow Tea of much promise as a garden Rose, mildew-proof, and makes a fine standard.

Mrs. Foley Hobbs (A. Dickson and Sons, 1910).—Although an exhibition Rose of the first water, this Rose should be in every garden. I consider it the finest Tea of recent introduction, and as it is of easy culture and good growth, good alike on dwarf or standard and sweetly perfumed, all should try it who have not done so. A gold medal variety. Colour, delicate cream; the catalogues call it ivory white. The young flowers have a slight Picotee edging that adds to their charm.

Mrs. Herbert Stevens (S. McGredy and Son, 1910).—Another Rose I referred to under "Exhibition Varieties," but its right place is among the garden Roses. A pure white Rose of long pointed flowers, of not many petals, that hangs its head modestly; it is a great favourite with me. A vigorous grower for a Tea, as hardy as any Rose. I am inclined to call it the most refined, if not the most beautiful, of all white Roses. A bed of it has flowers from May until December in an ordinary season, and last year (1912), despite the early frosts of October, it was one of the last Roses in my garden to give me a good flower.

DWARF POLYANTHAS OR POMPONS.

There have been a fair number of additions to these delightful Roses in the last few years, but I have not grown many of them. Herr Peter Lambert of Trier has given us many varieties. Messrs. Paul and Son of Cheshunt have sent out several, notably their Queen of the Musks and Snowstorm. Then two very fine additions to this class in Maman Turbat (Turbat and Co.), a very pretty flower, large for this class, and Yvonne Rabier (Turbat and Co.), a beautiful white that should be grand for beds, made their appearance at the "International" at Chelsea, and are now in commerce. They should certainly be tried.

Jessie (Merryweather, 1909) must also be mentioned. A bright crimson, small-flowered variety but very free, keeping its colour well and always in bloom. Excellent for a dwarf bedder under standards or as an edging. I have a half-standard that is carrying flowers now (February), notwithstanding wind, rain and hurricane.

Orleans Rose (Levavasseur, 1910).—A fine companion to the above, and, I think, the best of all the numerous pink varieties. I prefer it to Mrs. Cutbush, generally accepted as the best pink. It is freer-flowering in the autumn, and produces its flowers in immense clusters.

Southampton. H. E. MOLYNEUX.

FALLACIES REGARDING TEA ROSES.

IN most of our Rose guides we are instructed to give Tea Roses a light, gritty soil, and the warmest spot we can select for them. As I have no specially warm spot, and as my soil is about as strong a clay as can well be imagined, I was compelled to plant my Tea Roses under these disadvantages. But what do I find? Why! simply that the Roses seem intensely happy under the conditions named. I have such sorts as Mrs. Myles Kennedy, Hugo Roller, W. R. Smith, Molly Sharman Crawford, Anna Olivier and Medea making basal growths as thick as one's little finger. Varieties such as Souvenir de Catherine Guillot and Mme. de Watteville seem quite happy, and I know from past experience in other parts that they are not the easiest sorts to pull through.

I admit I have the advantage of the sea air about one and a-half miles away, but I think it is the soil. The conclusion I have come to is that the seedling Briar prefers clay, and as we bud our Tea Roses on the seedling Briar, it seems reasonable to study rather the stock than the Rose budded upon it. We may know that the wild Briar loves moisture, for do we not often find them luxuriating near a brook?

It is really wonderful what a length a seedling Briar root will descend. I have dug some plants this year whose roots when measured were over a

yard in length. No wonder such plants can laugh at a dry season when they are so well anchored in a clay subsoil. I thought perhaps this might be a useful topic to discuss at this slack season, and it would be very helpful to beginners in Rose-growing. DANECROFT.

THE GREENHOUSE.

GREENHOUSE PLANTS FROM SEED.

WITH the advent of spring, seed-sowing, both out of doors and under glass, is in full swing, and among other items the decoration of the greenhouse and conservatory during the summer and autumn months has to be fully considered and provided for. Of course, many of the occupants of these structures are of a permanent character, and others that loom largely as greenhouse flowers, such as Primulas, Calceolarias, Cinerarias and Cyclamen, must not be sown thus early in the year. Still, there are a great many that may be sown now, notably a large variety of annuals, which for greenhouse decoration increase in popularity year by year. One of the reasons of this is that annuals have had a deal of attention devoted to them of late, the result being vastly-improved forms, and also the fact that the different varieties and colours can be depended upon to come true from seed. It is, of course, necessary that the seed be obtained from a reliable firm.

Good Kinds.—Of flowering annuals that are particularly amenable to pot culture may be mentioned Alonsoas, Nemesias, Phlox Drummondii, Asters, Balsams, Browallias, Celosia pyramidalis, Clarkias, Mignonette, Rhodanthe Manglesii, Stocks and Schizanthus. Although some of these do not remain at their best for long, by sowing at intervals a succession may be kept up for a considerable time.

Hints on Sowing.—The golden rule to be observed in sowing annuals, or, in fact, seeds of any kinds, is to take care that they are not sown too thickly, otherwise they are heavily handicapped from the start, being drawn up thin and weak. To obviate this, the young plants should after germination have plenty of light and air, as if once weakened, their natural sturdy character cannot be restored.

As an object-lesson against overcrowding, reference may be made to a charming group of Nemesias which was shown last summer at one of the meetings of the Royal Horticultural Society. These, which were in pots 4½ inches and 5 inches in diameter, were perfect little models and masses of bloom. Each pot contained but a single plant. The young plants were stopped twice during their growing period, and in this way they formed ideal little specimens. Of course, they were not allowed to get drawn or stunted at any time. The difference between plants grown in this free and natural manner and others that developed under crowded conditions was brought forcibly to my mind a week or two after I saw those at the Royal Horticultural Hall, when a large batch that made a fine show of flower was exhibited. At a little distance the display was all that could be desired, but close inspection revealed the fact that each pot contained several weak plants that could not possibly keep up a display for as long a period as those that had been grown singly. Moreover, the mixed tints were less pleasing than those of the plants which had been grown singly.

Homilies against thick seeding are often indulged in, but still it goes on. Perhaps in some respects the seedsmen are to blame in giving us so much for our money. The grand effect often produced by a solitary self-sown annual in the open ground furnishes a good object-lesson as to the possible progress of a plant that has not been coddled in any way.

THE FLOWER GARDEN.

A FLOWER BORDER OF GREY AND BLUE.

HAPPILY, there is no lack of subjects that lend themselves to a blue and grey colour-scheme in the hardy flower border, and few colours blend in such perfect harmony. Of blue flowers, the tall spikes of Delphiniums in variety and Anchusa italica Dropmore variety are indispensable, while others that readily suggest themselves are Michaelmas Daisies, Lupines, Campanulas in variety, Phloxes, Flowers of a Day (Tradescantia virginica), not to mention the many blue-flowering annuals, such as Cornflowers, Myosotis, Nemophila and Nigella, that may readily be used to fill any vacant spots should they arise.

A BORDER OF GREY FOLIAGE AND FLOWERS IN AUTUMN.

Plants with Ornamental Foliage.—It is not flowering plants alone that are readily raised from seed and can then be used for decorative purposes, as many whose ornamental foliage is their chief claim to recognition can be readily increased in this way. Among these may be included Amaranthus of sorts, whose bright-coloured, gracefully-disposed leaves are very effective; Asparagus in variety, Coleus of sorts, Eucalyptus globulus and E. citriodora, Grevillea robusta, Kochia trichophila (which under the name of the Summer Cypress is very popular both indoors and out), with the different variegated-leaved forms of the Indian Corn (Zea Mays).

Of the ornamental-foliaged subjects above alluded to, the Asparagus, Coleus, Eucalyptus and Grevillea are plants of a perennial character, though they are readily raised from seeds. The others are of annual duration. H. P.

For grey effects one needs to fall back upon foliage plants to a great extent, although there are suitable flowers, such as Gypsophila and Statice elata, producing drifts of grey in cloud-like effect, as seen in the accompanying illustration. Both Erigerons and Eryngiums may be used to advantage, and help to make up a late summer border such as this. Among the best of the silver-leaved plants must be mentioned Cineraria maritima and Stachys lanata, while Cerastiums and Antennarias are likewise useful.

The subject of the illustration is a feature of the charming gardens at Regal Lodge, Kentford. These gardens are perfect in point of colour and grouping, each feature blending unconsciously with the next without undue formality or any leaning towards overcrowding. Thus at one end of this flower border is situated a paved Lavender walk, which in itself is a study in grey and blue,

A MIXED BORDER IN THE GARDENS AT GARNONS, HEREFORD.

with innumerable patches of dwarf Campanulas, chiefly C. pulla and the variety Miss Willmott, with bells of silvery blue, growing between the paving-stones.

The grass path in front of the flower border leads from the Lavender walk to a little flight of steps in grass, whence one is conducted to a well-trained pleached alley of Lime trees—a feature that was at one time popular in old-world gardens, but now not seen as frequently as one might hope to see it. The simple design of the trellis-work in the background of the border has much to commend it, and when clothed with blue-flowering Clematises it will enhance the beauty of this simple flower border, where harmony in colour rather than contrast is desired.

SOME HARDY BULBS FOR SPRING PLANTING.

While many bulbs which may be planted in spring, from now until the end of March, are well known, there are a goodly number which are not within the ken of the amateur, and about which he may like to know a little. By their aid his garden would be rendered a pleasaunce of higher beauty and of more intense interest. Some of these bulbs are not listed by many bulb-dealers, yet all may generally be procured through the specialists who advertise in the pages of The Garden. They ordinarily present little difficulty in their cultivation, but it must be noted that a number of them are not suitable for permanent planting and ought to be lifted when the leaves become yellow, dried carefully, stored in dry sand, and kept out of the reach of frost until the following spring. Unless otherwise indicated, they should be planted in an open soil of loam, leaf-soil and sand. A sunny place is preferable, though such flowers as the Poppy Anemone should have a slightly-shaded place.

Anemones.—It is unnecessary to describe the Anemones, especially of the coronaria section, of which the St. Brigid varieties are the best. If planted in March or April from 2½ inches to 3 inches deep, about five inches apart, they will bloom during the summer months, long after the autumn-planted ones are over. The glowing scarlet A. fulgens and its varieties may also be planted in spring. A. apennina, blue, can also be planted up till the middle of March.

Anomatheca cruenta.—A gem among summer-flowering bulbs is Anomatheca cruenta, which has bright crimson-scarlet flowers and is hardy in dry soil in some places, though in many it must be lifted and stored until spring. It is only a few inches high, and does best in a little shade.

Bessera elegans.—Here we have a charming flower about two feet high, with umbels of drooping scarlet blossoms outside, but white inside. Plant 3 inches deep in sandy soil and lift when the leaves die down.

Bravoa geminiflora.—The Twin-flower is a gem among summer-flowering plants, and gives, on stems about eighteen inches high, from twenty to thirty lovely flowers of coral red. It is almost hardy, but should have some winter protection if not lifted in winter. Plant 4 inches deep.

Chlidanthus fragrans.—This is an attractive yellow-flowered bulb, giving white or yellowish, long-tubed flowers in summer. The fragrance of the blooms adds to their attractions. It is nearly hardy, but in cold districts ought to be lifted and kept in sand during winter.

Cooperia.—This, called the Evening Star, is a lovely bulb with white flowers, which only open in the evening. C. Drummondii and C. pedunculata are the best species, and the latter is the more refined of the two. Plant 3 inches deep and protect in winter if not lifted, which is the safer plan. These have white flowers and are about six inches high.

Crinums.—The hardiest of these stand our winters in many parts of the British Isles, and are magnificent flowers for warm places; they give great umbels of fine flowers on plants 3 feet or so high. The bulbs should be planted a foot deep if to be kept outside, and are best against a wall, with some protection over the border. C. longiflorum or capense (pink), its variety album (white), C. Moorei (rosy white, slightly tender), C. Powellii (rose), C. P. album (white) and C. yemense are the best for outdoor culture.

Hardy Cyclamen.—I prefer autumn planting for these, but dry roots of C. europæum (crimson) and C. neapolitanum (rosy pink or white), both flowering in autumn, can be obtained. Plant in shade about one inch deep in any soil with some lime rubbish mixed with it.

Habranthus pratensis.—No plant excited more interest at the great show at Chelsea last year than this. It is hardy in the Eastern Counties if grown in sandy soil near a sunny wall in well-drained positions. Plant 9 inches to 12 inches deep. The flowers, of a brilliant scarlet, open in May or June. [Autumn planting is adopted by Mr. Davison of Westwick Gardens, Norwich, who grows the plant better than anyone we know.—Ed.]

Galtonia candicans.—Only a reminder that March is the time to plant this grand bulb is necessary. Its pendent white flowers are simply grand in the garden in autumn. Plant 6 inches deep.

Incarvilleas.—These beautiful hardy plants may be planted in the open from February to April. Plant 3 inches deep in good soil. I. grandiflora is the dwarfest, I. brevipes is the next, and I. Delavayii the tallest. The flowers are carmine or crimson, with yellow.

Milla biflora.—This is a charming half-hardy bulb with dainty star-shaped, white flowers. Plant 4 inches deep in sandy soil in a warm place, and lift and dry in autumn.

Pancratiums.—In these we have lovely hardy bulbs, though requiring some protection or lifting for winter in cold districts. P. illyricum and P. maritimum are the best. The former should be plac d 9 inches deep, but the latter will do with from 6 inches to 8 inches. The charming white flowers are borne in umbels.

Ranunculuses.—It is necessary to remind amateurs that Ranunculuses may be planted in March or April in good, light, moist soil. Place the tubers about two inches deep, lift when the leaves have withered, and store until autumn or spring. The Giant Double French are the most vigorous.

Tigridias.—Everybody who has a sunny bed or border should grow some of the Tigridias, or Tiger Flowers, gorgeous plants in sunshine, and of almost barbaric beauty. Plant 2 inches deep in a dry, rich bed or border, and when the foliage has withered lift the bulbs and store in dry sand until spring. They are capable of wonderful effect, giving flowers from white through yellows to lilacs, roses and scarlets, and wonderfully marked.

It is unnecessary to speak of Gladioli or Montbretias, as they are frequently treated of in The Garden, and Mr. Bowles has been dealing fully with the Lilies.

Dumfries. S. Arnott.

BORDERS OF ANNUALS AND HERBACEOUS PLANTS.

Although among plants of annual duration only, or those perennials usually grown as annuals, we find some of the most beautiful of our outdoor flowers, one cannot say that they are grown so extensively as their merits deserve. For their beauty alone such kinds as Antirrhinums, Larkspurs, Godetias and Clarkias demand a place in the best of gardens, while the fragrance of such as Mignonette and Night-scented Stock endears them to all. Apart from their beauty and fragrance, however, annuals are particularly useful for filling blank spaces in mixed or herbaceous borders, also for planting or sowing between such bulbs as May-flowering Tulips. These bulbs, owing to their late date of flowering, often cause the gardener considerable worry, as to follow them with ordinary bedding plants would necessitate lifting the bulbs some time before they were ready.

It is in such instances as this that annual flowers have a special value. They can either be sown between the Tulips or other late-flowering bulbs, or plants can be raised in frames and planted out between the Tulips, this latter course being adopted with such kinds as Antirrhinums and Pentstemons, which, though not strictly annuals, are often grown as such, and which must be sown early in the year to get them into flower during late summer and autumn.

The accompanying illustrations—one of a bulb border sown or planted with annuals, and the other a mixed border containing some annuals—are from photographs taken by Mr. J. Croot Tucker in the gardens at Garnons, Hereford, the residence of Sir John Cotterell, Bart. We are indebted to the head-gardener at Garnons, Mr. Charles Liddle, for the following particulars relating to them. Mr. Liddle has only been at Garnons four years, and made up the annual borders three years ago. These borders (shown on this page) are planted with May-flowering Tulips, these being grouped in masses of separate colours, with clusters of German Irises, and the annuals sown or planted between them. Among the annuals used are Antirrhinums, tall white and pink, and intermediate forms of the same colours; Pentstemons Gosford Pink and Newbury Gem, mauve and pink Verbenas, and white and purple East Lothian Stocks. The annuals commenced to flower at the beginning of July, and made a good display well into the autumn.

The mixed border (page 106) is in front of a fruit wall, and contains Roses on poles, the thornless Rose Zephyrine Drouhin being successfully used in this way. Its vigorous habit, fragrance and the delightful colour of its blooms render it excellent for the purpose. Michaelmas Daisies, Helianthemums, Campanula pyramidalis and Artemisias are freely planted in good-sized groups, with plants of more lowly stature in the foreground

The illustration on page 108 shows an awkward-shaped bed in an Essex garden, where the same idea of using annuals between bulbs, as referred to above, has been carried out. The bed contains choice Darwin Tulips, between which the Candytuft was sown about the middle of April. As may be seen, the Candytuft is perfectly happy, and the Tulips were none the worse for the association. The cost of the seed used in this bed was threepence. After the Candytuft had finished, the Tulips were lifted, the ground well dug and the bulbs replanted. Between them Snowdrops were also planted, and these have given a right royal display this spring. Now, the Tulips are coming up freely, and later on will give us their flowers, to be followed in July and August with a display of annuals. In addition to Candytuft and the others already mentioned, there are many annual flowers that could be utilised in this way. A few that come to mind are Mignonette, white Alyssum, Leptosiphon, Virginian Stock, dwarf Larkspurs, Antirrhinums, Nigella Miss Jekyll where tall plants can be accommodated, Godetia, Clarkia and Shirley Poppy.

COLOURED PLATE.

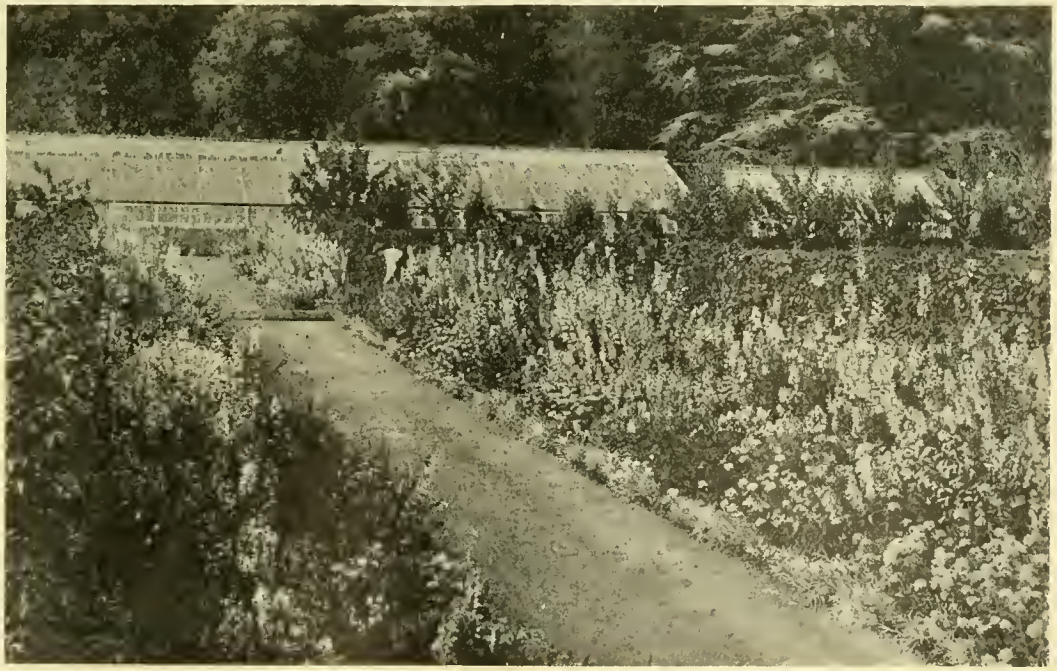
PLATE 1466.

SNAPDRAGONS AND THEIR CULTIVATION.

In the Snapdragons, or Dragon's Mouths, as we delight to call the many beautiful forms of Antirrhinum majus, we have flowers of great beauty and curious form, plants of excellent habit, free-flowering propensities and almost immune from disease, while their floral display is continued over a longer period than that of most kinds of plants which can be as easily raised from seed. Snapdragons have been known in our gardens for a great many years, and some of the striped forms are figured in the old herbals; but, in common with many other flowers, it is only during the last decade or two that the majority of the beautiful varieties which adorn our gardens have been evolved. These varieties, four of which are shown in the accompanying coloured plate, are the outcome of long, ardent, intelligent labours on the part of a few of our leading seed firms, among which Messrs. Sutton and Sons have always held a foremost position. It is to this firm that we are indebted for the colour photograph from which the coloured plate has been prepared, and the varieties shown therein are from their trial grounds at Reading.

The usefulness of these modern Snapdragons in the outdoor garden can scarcely be overstated. Providing the soil is well drained and does not contain a great amount of fresh manure, the plants will thrive almost anywhere. Beds or borders may be filled with them, or clusters of one colour may well find a home in the mixed border. For those narrow borders usually to be found next to the dwelling-house, and where the soil is often too poor and dry for many plants, the Snapdragons will thrive luxuriantly, while for the tops of walls, or the interstices of dry walls where there is a modicum of good soil, we know of few better plants. At Hopetoun House Gardens, Linlithgow, particulars of which appeared in our issue for January 11, a whole border of large dimensions is devoted to them, and so well are the beautiful art colours blended that the border is one of the most interesting features of a particularly interesting garden.

Cultural Notes.—Although these Antirrhinums are strictly of perennial duration, the most favoured method is to treat them as annuals or biennials, preferably as annuals. For this purpose seeds are usually sown early in February, and from then onwards until well into March, so that if seeds are procured and sown at once, good plants should be available for the outdoor garden by the second or third week in May. Well-drained boxes or pans, filled with soil composed of good loam two parts, coarse grit one part, and a little sweet leaf-soil or old manure, should be used for seed-sowing, which must be done thinly, and the seeds lightly covered with fine soil. If placed in a warm greenhouse or frame, the seedlings soon appear, and should be early transplanted to other boxes or pans filled



BORDERS OF ANNUAL FLOWERS AT GARNONS, HEREFORD. THESE BORDERS WERE FILLED WITH TULIPS IN THE SPRING.

with similar soil to that already advised, except that rather more decayed manure and, if available, a little old mortar may with advantage be added. The seedlings should be placed 3 inches apart each way, as it is highly essential that sturdy, branching young plants be secured. With this end in view, free ventilation, as soon as the seedlings are established, must be given, and they must be kept near the glass. If in a frame, the lights may be entirely removed on bright, sunny days. About the second or third week in May, or even a little later, the young plants should be put out about a foot apart in their permanent quarters, and from early July right on until severe frosts are experienced they will give a bounteous display of flowers.

When treated as biennials, it is usual to sow the seed in the open garden in June or July, subsequently transplanting the seedlings either into other beds, and later still into their flowering quarters, or direct into the latter positions, whichever method is adopted being a matter of convenience. Plants raised in this way commence to flower in early summer, and continue to do so, as a rule, well into the autumn. It is, however, essential to remove seed-pods and old flower-stalks as frequently as possible. Named varieties are sometimes increased by means of cuttings; but as most of the colours come true from seed and the seedling plants usually possess the greater vitality, few care to bother with cuttings. We prefer the tall and medium types of Snapdragons to the dwarf, stunted section, which, however, some like to use as an edging to beds. It is, however, but a poor example of a beautiful race of flowers. With the wide range of colours available, it would be invidious to specially mention any by name. All that are offered by seed firms of repute are good.

A SUMMER BED OF MIXED CANDYTUFT. IN THE SPRING THIS BED WAS MADE BEAUTIFUL WITH DARWIN TULIPS AND THE CANDYTUFT SEED WAS SOWN BETWEEN THEM IN APRIL. (*See page* 107.)

IRIS SIBIRICA AND ITS VARIETIES.

The numerous varieties of this handsome and well-known species are all possessed of exceptional merit as garden plants. All the forms are exceedingly graceful and are most pleasing when grown together in clumps or massed for effect. For grouping together on the margins of a pond or water-course there are few subjects so delightful, the lavender blue and violet coloured varieties being particularly useful for this purpose, forming bright and most pleasing masses of colour in the landscape. In choosing a position in which to plant, the chief consideration should be to secure one where the plants will receive full sunshine at all times, preferably one adjoining or in the vicinity of a plentiful water supply.

All the varieties are gross feeders and prefer an alluvial soil rich in humus, such as leaf-mould or well-decayed manure, and they well repay any extra trouble taken in order to give them a good start; in fact, there are few plants of such easy culture when their requirements are properly understood. Of course, to plant them in a dry position or in poor, sandy soil is courting failure at the commencement.

When to Plant.—Another point is that they should be replanted at the right time. The proper time to replant this and, in fact, all other species of this extensive genus is immediately after they have finished flowering, not in the winter period, as is the case with most herbaceous plants. It is immediately after the flowers are over that the new growths are made with their accompanying new roots, and any necessary division or replanting should precede the new growth. In the case of I. sibirica this should be done about July, but is liable to vary slightly from year to year. If replanted at the proper season, there is sufficient time for them to become established in their new quarters before the winter period, and most of the plants will flower the following year. In planting it is important that the rhizomes should be kept on or near the surface, as there is nothing so detrimental to success as deep planting. All the rhizomatous Irises produce their rhizomes along the surface of the soil, and this points to the idea that sunshine is essential to success. The primary roots of practically all the genus have the habit of striking straight downwards, and once these have developed, any disturbance afterwards is distasteful to the plants, so much so that even the operation of forking between the clumps will often cause them to fail to produce their flowers.

The Best Varieties.—Of the numerous varieties of I. sibirica which are worth growing, I can recommend the following, all of which may be purchased from nurserymen at from 3d. to 9d. each: sibirica (type), standard (or petals) light blue, fall (or sepals) purplish blue, reticulated; alba, pure white; Snow Queen, a fine white variety with rather larger flowers than the type; atropurpurea, a rich deep purple; acuta, deep blue falls, white reticulations and of dwarf, compact habit; furcata, white, falls reticulated with yellow; lactea, white, reticulated with brown; Melpomene, a dwarf variety with white flowers; and Baxteri, blue, with white falls.

In his recent monograph of the genus Iris, Mr. W. R. Dykes suggests that I. sibirica is confined to Central Europe and Russia, and that the Siberian plant is I. orientalis. He points out that the two plants may be readily distinguished by their fruits and seeds, and illustrates their distinguishing characters with some exquisite coloured plates. Apart from their fruits and seeds, the two plants may be readily distinguished by their habit of flowering, the blossoms of I. sibirica being borne on long, slender stems often twice the length of the leaves, while those of I. orientalis are on short stems partly hidden among the leaves or barely rising above them.

P. C. Raffill.

RAISING ASTERS IN COLD FRAMES.

It is, I think, safe to assert that there are no more delightful flowers grown in our gardens than these, and it is therefore regrettable that they should so seldom be seen in perfection. Of course, hundreds of amateurs produce magnificent blooms, but thousands of others have flowers of mediocre or poor quality. The reasons for this are not easy to indicate. Beyond question the point of initial importance is to procure seeds from a source of the first repute; but this presents no difficulties. Then the seeds must be sown sensibly and the plants treated rationally throughout, and these things are not invariably done. Then the soil must be clean and not made

ink with excessive dressings of manure, as is far too commonly seen. The growers then wonder why their plants collapse—the real marvel would be if they lived in health in such unsatisfactory conditions. The fact of the matter is that the idea is gaining ground that manure will take the place of mechanical cultivation. Those who hold this impression must disabuse their minds of it at once if they desire to achieve real success in the garden.

The point raised as to purchasing seeds of the finest quality has been practically disposed of already, since there are many seedsmen upon whom complete reliance may be placed. For example, Messrs. E. Webb and Son have a particularly choice strain of Comet Aster. The quality of the blooms can be seen in the illustration on page 110, but the range of refined and charming colours is not reproduced. In case some captious critic should cavil at the two or three single plants observable, let it at once be said that they were planted as fill-ups, and the proud owner knew they would come sooner or later and detract a little from the effect.

Sowing the Seed.—The next point which shall be passed in review is the seeding. No artificial heat whatever is necessary; indeed, I am inclined strongly to the view that it is not desirable. Amateurs with heated frames and greenhouses are almost sure to sow the seeds too early, with the inevitable result that endless worry and trouble are involved in keeping the plants sturdy, strong and compact, and, unfortunately, all efforts in that direction often end in dire failure. The earlier the seeds are sown and the warmer the structure in which the seed-boxes are placed, the greater the trouble of culture and the more the chances of loss and disappointment. Given a cold frame, even a box with a piece of glass over it, some sweet, fine, friable soil, and intelligence, everything essential to success is at command. Let there be a generous proportion of sweet leaf-mould and sharp sand in the soil, and make the surface firm and level prior to the distribution, evenly and very thinly, of the seeds. It must, of course, be pleasantly moist, and it is then improbable that more water will be needed until the seedlings are through. As regards the time of sowing, one has latitude, since any day between the end of the third week of March and a similar time in April will answer splendidly. The seeding ought to be so thin that thinning will not be required, and when the available space is filled, prick the youngsters out in a bed to strengthen. Here they will make many roots, and about the end of May they should go into their flowering quarters. Moderately firm planting is necessary, and the distance asunder will obviously vary with the varieties cultivated. The plants shown in the illustration were raised in a cold frame on the lines indicated above.

Then as to the soil. It must be in perfect physical condition, and there must be a supply of food. To ensure the first named one digs deeply, taking small bites, and to provide the second essential one adds manure; but where there is a base of humus already present, it is much wiser to rely upon a little artificial fertiliser than to mix in organic manures. There are plenty of excellent plant foods advertised in The Garden that can be advantageously used according to directions, or a home-made compound of superphosphate and sulphate of potash may be applied. In any case, let the dressing be made three weeks, and preferably one month, before the planting is done. F. R.

AN EFFECTIVE GROUPING OF IRIS SIBIRICA BY THE WATER-SIDE AT KEW.

THE HEATH GARDEN.

HOW TO MAKE AND MAINTAIN IT.

In these days, when fashion has given a healthy impetus to the improvement of flower gardening in all its aspects, including rock, water and wall gardening, as well as a revival of topiary work, it may not be out of place to enter a special plea for a more extended use of this interesting race of hardy plants; and if one could imitate the graphic pen of a Reginald Farrer and so describe the many gems contained in the genus, their easily-understood and modest requirements, together with the knowledge that they provide an inexpensive hobby which may be enjoyed equally by those looking for further extension to their pleasure grounds or those possessing only a small strip of ground which may be unsuitable for other styles of gardening, then the formation of Heath gardens would soon become general.

The genus Erica, belonging to the Natural Order Ericaceæ, is said to contain between four hundred

and five hundred species, the majority of which come from South Africa, the others being natives of Britain and Southern Europe. The common Heath or Ling, Erica vulgaris or Calluna vulgaris, so plentiful in the Highlands of Scotland and on moors in England, is said to extend to North America, but only in small quantities. The South African species were at one time largely grown as greenhouse plants, but few of them are now in cultivation, their places being filled by numerous soft-wooded hybrids which are largely grown on the Continent for autumn and winter decoration; but it is of the varieties that have proved hardy in Britain that I propose to treat. A full collection or a selection of those best suited to the climate may be had to provide a succession of flower almost throughout the year; indeed, it may be said that the Heath garden is never entirely devoid of flowers unless when the plants are buried deep in snow. Those flowering in late autumn retain their flowers, with very little diminution in the bright colours, through the dull months of November and December, and after the plants are entirely denuded of flowers, numerous varieties show such a distinction and contrast in the colouring of the foliage—some silvery, some golden, and others bronzy or russety—that they are not without decorative effect, while such varieties as E. multiflora, E. arborea and E. codonodes will, by the end of the year, be pushing out their delicate flowers until arrested by severe frost or a heavy coating of snow, only to reappear with renewed beauty as soon as the sun has proved strong enough to melt the snow on the higher shoots. These three are followed in quick succession by a host of spring and early summer flowering varieties, a list of which I propose to give later on, with their respective colours and habits.

The increased demand now shown for all kinds of outdoor gardening, and especially for hardy plants, has been the means of bringing this highly interesting genus into more prominence than it has perhaps hitherto enjoyed; and while it cannot be claimed that it has the reputation of having an accommodating nature, its wants, when properly understood, are easily satisfied.

Situation and Soil. — The situation chosen for the Heath garden should be one having a southern aspect, if possible, or on a sunny slope leading from the formal flower garden to the shrubbery or plantation, a sort of connecting link, in fact, between the purely artificial and the natural. The place selected must be thoroughly drained, if not naturally a dry spot, for these plants will not thrive with any excess of moisture about the roots, and the soil, if of a heavy, retentive nature, or containing much lime, would require to be removed and replaced with a mixture of peat, leafmould and sand or grit. Should the natural soil be a light, sandy loam, however, none of these ingredients will be required. Fortunately, or unfortunately, I have here a soil in which all sorts of hardy Heaths grow and luxuriate without any assistance, but which requires heavy manuring and other ingredients to produce crops of fruit and vegetables, the tiniest scrap of Heath with but few roots attached being generally sufficient to establish strong plants in a very short time. As an instance of the ease with which these plants can be grown when the soil is suitable, we have a section of the kitchen garden walks edged with Erica carnea and E. c. alba as a substitute for the usual Box edging; these grow with such rapidity that, although clipped annually, they have to be lifted and replanted every few years. The effect in early spring, when the lines (about eighteen inches in width) are an unbroken mass of flowers, is one to be envied by those who find a difficulty in getting these plants to thrive.

Formation of the Heath Garden.—As I have already said, the situation of the Heath garden may form an adjunct to the formal flower garden, or it may be an extension or addition to the rock garden; and a very pretty effect may be obtained if a piece of ground is selected which has a decided slope with an undulating surface, where beds of irregular shapes and sizes could be made to harmonise with the existing surroundings. A plantation or belt of timber on the north and east of the site, if an exposed one, would give shelter to visitors and do no harm to the plants; while a rustic summer-house, thatched with Heather obtained from some friendly owner of a grouse moor, erected on a spot to command a good view of the garden, would add to the general comfort and appearance. Avoid geometrical designs or the making of gravel paths, which I do not think are in keeping with the subject under notice. Beds cut out in grass, so that when in full growth the plants may appear as if growing naturally in clumps out of the turf, give the best effect. The grass will require to be kept regularly mown, so that each bed may be examined conveniently. As vermin do not, as a rule, molest the Heaths, protecting fences, which often prove a difficulty, need not be considered. The positions of the beds having been determined, these should be excavated to a depth of 1½ feet to 2 feet and filled in with the mixture already mentioned. Planting may be safely undertaken during favourable weather, either in autumn or spring. The fringes of shrubberies or large borders might also be made more interesting by the addition of numerous varieties of the Heath, disposing them in large, bold clumps or in bays formed by taller-growing subjects. Edgings of some of the dwarfer, free-growing sorts might be formed around the margin of all beds or borders containing hardy shrubs. There are also numerous varieties that do not exceed 6 inches in height which might find a place in the rockery, their stations being filled with a suitable compost.

T. Wilson.

The Gardens, Glamis Castle, N.B.

(To be continued.)

A BED OF MIXED COMET ASTERS. THESE WERE RAISED FROM SEED SOWN IN A COLD FRAME IN MARCH. (*See page* 108.)

TREES AND SHRUBS.

THE JAPANESE QUINCES.

We are so accustomed to the red-flowered form of Cydonia japonica that the other distinct and vari-coloured varieties are apt to be neglected. The mild weather of the present winter at Kew has been especially favourable for the different forms growing in the border near the Pagoda. For nearly two months now the notice boards at the entrance gates have indicated to visitors that the Cydonias are an object of special interest. Near the Pagoda the plants are grown as bushes, while at the other end of the Gardens several plants are flowering freely against a wall. The protection afforded the latter is very beneficial during an ordinary winter. Among an interesting and varied list of varieties, the following will be found a useful selection for walls, fences, or grown as bushes in a border (in most instances the name indicates the colour of the flowers): C. japonica (red), Aurora (pale salmon pink), alba, atrococcinea, candica or candicans (pale sulphur white, very free), luteo viridis (yellow, shaded green), Mœrloezii (pink and white, a strong grower), umbilicata (rich rose), sulphurea perfecta, and flore pleno (semi-double, red). A closely-allied species, C. Maulei, with orange scarlet flowers, is also blooming freely. Of this, alba, superba (dark red) and Leichtlinii (red) are distinct varieties. Layering forms a ready means of increasing these Quinces.

SOME GOOD WINTER TREES AND SHRUBS.

Prunus davidiana alba.—This, although it flowered abnormally early this season, is one of our earliest-flowering trees, and during the first week of the New Year was one of the greatest attractions in the garden. Owing to its blossoms being pure white, it is not so readily seen as many others of the Prunus family; but when the long, whip-like growths, studded with flowers, are caught in the

right light, it is a beautiful picture. The tree is of pyramidal growth, with branches arising from the base almost as fastigiate as a Lombardy Poplar and some 18 feet in height, and every year blossoms in spite of the weather prevailing at the time, though I have never seen it so thickly laden as at this season. The five-petalled flowers are produced in ones and twos the entire length of last year's growth, and are barely an inch in diameter.

Cornus Mas.—This deciduous species, commonly known as the Cornelian Cherry, from the fact that established bushes produce fruits resembling a long Cherry, has flowered profusely. It occurs wild in the North of Asia in hedges and among bushes, and the wood, being exceptionally hard, is, I believe, used for making skewers, toothpicks and similar articles. In this country, however, it forms a fairly slow-growing, compact bush, and at this season is attractive because of its minute yellow flowers, which are particularly pleasing and interesting. In addition to the type there are one or two forms which produce prettily-variegated foliage, and especially good is the variety C. Mas foliis aureis variegatis.

Aralia chinensis.—To those who have a considerable amount of planting to do, and who do not know the merits of this shrub, I would strongly recommend it. The name by which it is now recognised is certainly much more suitable than Dimorphanthus mandschurica, under which it is often met with. It is perfectly hardy, will thrive anywhere, and produces large and elegant foliage, which, however, falls at the first touch of frost. The stems, which are prickly, are quite hardy, and attain a height of 10 feet or so. When once established this subject may easily be propagated by suckers, which arise from the base. During the summer its appearance is considerably enhanced by the large trusses of flower, which, if not individually beautiful, give the plant a further sub-tropical appearance. There are two variegated forms of this shrub, one bearing silver, the other golden variegation. Both are pleasingly marked and totally distinct from each other. As the leaves have a great spread when fully matured, abundance of room must be allotted the shrubs when planting, a matter which might easily be overlooked, as when denuded of their foliage one can hardly imagine them to be the same plants.

Cotoneaster pannosa.—This evergreen Cotoneaster, hailing from Yunnan, is one of the finest berried winter shrubs we have, and has been literally covered with its somewhat small red fruits as compared with some of the other members of the genus. It certainly is one out of the numerous species and varieties now grown that cannot be omitted, and it has been in commerce some time. It makes a splendid specimen for a lawn as we grow it here, as it has quite a graceful habit with its drooping, slender branches and its small greyish green leaves. On our cold, wet soil we have found it quite hardy during the last few winters, though it is one of those shrubs that might be tried against a wall, where it would make a good effect.

Aldenham House, Elstree. Edwin Beckett.

THE KITCHEN GARDEN.

GARDEN PEAS.

Peas form one of our most popular garden crops, and may be grown in almost any garden providing the ground is properly prepared for them. The Pea is a deep-rooting and moisture-loving plant, and only when the soil has been thoroughly prepared can the best results be obtained; but, given these conditions, and by frequent sowings, a continual supply of young pods may be kept up from May till October, or even November if the weather is favourable. To grow Peas to perfection it is necessary to trench and prepare the land early in winter and to mix a liberal supply of decomposed farmyard manure with the soil as the work proceeds.

PEA INTERNATIONAL, A NEW LARGE-PODDED MAINCROP VARIETY OF GOOD CROPPING QUALITIES AND EXCELLENT FLAVOUR. *(Much reduced.)*

When to Sow.—At Frogmore we make our first sowing in the open as early in January as the state of the soil will permit. For the earliest and latest sowings a sheltered position should be chosen, in order to obtain some protection from rough wind, for although young Pea plants will stand several degrees of frost without injury, the effect of rough wind upon them is very detrimental. For the earliest sowings, only hardy, round-seeded varieties should be chosen, and the rows should run from north to south, in order to secure the maximum of light and air. There is great risk in sowing the best wrinkled varieties before the middle of March, and only then if the weather and the state of the soil are favourable. If this rule was more generally adopted, there would be fewer failures with this class of Pea, especially in cold, wet seasons.

Preparing the Drills.—The space between the rows must be governed by the height of the varieties selected for sowing. For instance, a 4-feet Pea should be allowed 6 feet between the rows, and, if necessary, a line of Spinach or some other quick-growing crop may be sown between the rows, to be gathered before the season is too far advanced, as nothing of this kind should be allowed to remain long enough to obstruct the free passage of light and air among the plants. The drills in which the seeds are sown should be at least 4 inches deep, and the seeds covered with 2 inches of the finest soil from the surface of the bed which has been exposed to the weather during the winter, and the soil taken from the drills may be allowed to remain as a protection to the young plants from cold east wind during the early spring. When a few inches high, this soil may be carefully worked in among them before the sticks are placed in position, thus leaving the ground almost level, instead of drawing the soil up to the plants in ridge-like manner and casting off the rain-water, which is so necessary for the production of first-class Peas.

For midsummer or maincrop varieties an open position should be chosen, and the seeds may be sown thinner as the season advances, in order to promote robust growth and render the plants less likely to suffer from mildew than if crowded together, as they frequently are. For the latest sowings, which should take place early in June, a position should be chosen with some natural protection from rough west wind, which often proves disastrous during the autumn. This is a very important matter where an unbroken supply has to be maintained throughout the season.

In all cases, before the plants are staked a number of small twigs should be placed as close to the plants as possible, in order to keep them in an upright position until their tendrils reach the sticks.

Pests.—If once the plants are allowed to suffer from insufficient moisture at the roots, the evil cannot be effectually remedied; but it may be prevented to a great extent by timely and effectual watering and mulching. There is no more fertile cause of mildew among Peas than an insufficient supply of moisture. Peas suffer greatly from the depredations of numerous kinds of vermin, and sparrows in particular, which should be guarded against by placing wire guards over the rows or by covering the bed with fish-netting as soon as the young plants appear above the surface of the soil. If slugs are troublesome, there is no better remedy than dusting the plants with soot which has been exposed to the air for some time previous to use, and this should be applied early in the morning, when the atmosphere is moist.

Varieties. — For early sowing there is no more reliable Pea than The Pilot, from which we gathered our first supplies on May 24 last year. The seeds were sown early in January on a south border, in trenches 4 inches deep, and covered with 2 inches of fine soil. This Pea was raised a few years ago by Messrs. Alex. Dickson and Sons, and is rapidly gaining favour both in market and private gardens. Other varieties to follow The Pilot should include Veitch's Acme. This Pea has a flavour quite its own, and if sown at the end of February should be ready to gather about the middle of June. If dwarf varieties are desired for early sowing, they should include Little Marvel and Reading Wonder, the latter being one of the earliest dwarf Peas in cultivation. Sutton's Seedling and Langley Gem are also very fine dwarf Peas. For the second division we have Gradus, Early Giant and Daniels' Matchless Marrow, all of them fine Peas for second sowing, and will follow the first crop for succession. In main crop varieties Royal Salute is one of the best. Sutton's Superlative, Alderman and Discovery are all good. For the latest division, Chelsonian, which is a strong-growing variety of the Ne Plus Ultra type; Distinction, a fine late Pea which resists mildew well; Rearguard, a new late variety of fine quality; and Autocrat are all to be recommended. For exhibition purposes there is none to equal Carter's Quite Content.

Royal Gardens, Windsor. John Dunn.

GOOD POTATOES FOR SPRING PLANTING.

The garden in which vegetables are grown would be lacking the most important of economic plants were the Potato to be excluded, and, happily, such a peculiar method of cropping is rarely seen. It is often impossible, in these days of small gardens, even attached to houses in the country, where the land cannot be worth many pounds sterling to the square foot, to produce enough of the noble tuber to serve the year round; but space must always be found for a few rows of early varieties, because no Potatoes can be bought that will equal those dug from one's own garden. This should apply to each successive group, but it is much more pronounced with the first earlies than it is with those grown for main crop and late use.

Having convinced one's self of the paramount importance of the Potato crop, it should not be difficult to grasp the value of proper soil preparation, of procuring perfect seed tubers, of planting carefully, and of sprouting the sets before consigning them to Mother Earth. The particular size of set utilised has a substantial bearing upon the ultimate results, and experience in many directions goes to prove that an average weight of 3oz. cannot be beaten.

A GOOD CROP OF POTATO ROYALTY, A WHITE MID-SEASON VARIETY WITH DWARF, BRANCHING HAULM.

Preparing the Sets.—The advantages of sprouting lie in the production of a more vigorous plant, which will have greater powers of resisting the disease than one that has been grown from an unprepared set; in the prevention of gappy lines in a quarter, since the tuber which will produce a strong sprout will give a fine plant; and in the fact that one can plant later and harvest the crop quite as soon. This latter is a point of importance, in view of the injury resulting from late spring frosts. It is wise, too, in addition to sprouting the seed sets, to damp them thoroughly once or twice with Bordeaux mixture, with a view to reducing the serious effects of the blight. It is well known that spores cling in the soil on the skins and also congregate in the buds, and it is from these that the first growths of the murrain appear rather than from resting spores in the soil. The old method of dusting the tubers with lime was good, but there can be little doubt that the copper sulphate solution is decidedly better. The only objection that I have heard raised to the system is that it may prejudice the progress of the plants, but proof to the exact contrary is not difficult to adduce.

Another point in connection with seed sets is to procure them from an outside source every year. The practice of saving at home is wrong, and has ended in the ruin of more than one magnificent variety. Buy seed from some different soil and climate—any source rather than one's own district; but avoid South of England seed, especially from light, sandy lands, as one would avoid the plague, because it throws too big a proportion of poor plants, and the plants are liable to disease.

In choosing Potatoes one is presented with the difficulty that certain varieties will grow in one garden and not in another, even though only a few hundred yards may separate them. There are, however, some Potatoes which flourish satisfactorily in the majority of places, and it is now purposed to mention them.

Some Good Varieties.—A splendid set is Carter's trio, Early Favourite, Royalty and Long Keeper. In regard to the second named, it is worthy of note that the tubers are still in excellent condition and are cooking magnificently, although it is classed as a second-early variety. One could not go in for Potato cultivation without trying Sutton's varieties, of which such earlies as May Queen, Ringleader and Epicure have made a reputation which will last for many years, whether one writes of them or not; while Balmoral Castle and White City are grand for later use. Sutton's, by the way, advocate yellow for quality, and they are right in this, as in so many other things that they do.

A Scottish set that will please comprises Midlothian Early (probably one of the finest early Potatoes ever introduced), Prolific and The Factor; and Dobbie's strain of the old Windsor Castle requires a lot of beating for home use. Dickson's recommend Early Queen, New Century and Eastern Planet, and trial has demonstrated that the three varieties are fully entitled to all the good things that the firm claims for them. Irish seed has become renowned in recent years. Mr. Sands is keen on Erin's Queen and Irish Hero, but he does not forget to speak words of commendation regarding the excellent Colleen. One could, however, write far more of fine Potatoes. All growers should select the varieties which they know to be good and try those mentioned above, if they have not already done so, in the hope that one or more of them will turn out superior to the established favourites. H. J.

GARDENING FOR BEGINNERS.

HOW TO GROW TOMATOES UNDER GLASS.

THE cultivator who can command a fair amount of artificial heat in his glass structure may sow seeds of Tomatoes at once. Those who are only able to heat their structures sufficiently to keep out frost should not sow the seeds for another fortnight, as then the heat from the sun will be of great benefit.

The best position for Tomato plants is one fully exposed to the sunshine, and the atmosphere in the house must be dry; then there will be no diseased leaves or fruits. Even the lower portion of each plant should be quite exposed to the sun's rays; then there will be a possibility of fruit forming from the base to the top, which means earliness and a greater weight of Tomatoes.

Raising the Seedlings.—Through experimenting and experience generally, I have found it best to sow the seeds in some good, new loam which has been stacked about four months, and coarse sand with only a very small proportion of leaf-soil. The resultant seedlings grow very sturdily in such a mixture, and few decay at the soil-level. In a light compost, with a large quantity of leaf-soil in it, many seedlings die suddenly in this way. Do not cover the seed pot or pan with glass or paper, as in such circumstances the seedlings come up weakly. Avoid overcrowding from the seedling stage onwards, the seedlings in Fig. 1 being rather too thick. Under these circumstances the seedlings must be pricked off in the very early stages, as soon as they can be handled, placing them in boxes as depicted in Fig. 2. Until the seedlings have grown about three inches high, apply water by immersing the pots or boxes.

Soil for the Permanent Bed or Pots.—A narrow border is the best in which to plant the Tomatoes, but, as previously stated, it must be fully exposed to the sun. Ten-inch and 12-inch pots are more suitable than boxes if the plants are grown on a stage. In every case thorough drainage is essential to success. If grown on a border in the house and the stems are trained to stakes or strings, the soil must be deeply dug and then trodden firm again before the Tomatoes are planted. Neither chemical nor organic manures must be added to the border soil nor that placed in pots or boxes, as the necessary feeding must be done after the two basal bunches of fruits have set. The first layer of soil should not exceed 7 inches in depth, and later on surface-dressings half an inch deep should be put on the roots. All soils used must be made firm.

Training the Plants. — This simply consists of restricting each plant to one main stem, or the removal, while in a very small state, of all side shoots, keeping the main stem, main leaves and bunches of fruits only; then, if the plants are disposed 18 inches apart, they will have every chance to do well.

Other Necessary Work.—Free ventilation in mild weather is good for the plants generally; a teaspoonful per plant of superphosphate every ten days and weak doses of manure-water weekly may be given. Other concentrated manures advertised in The Garden may also be used according to the instructions given with them, but not pure nitrate of soda nor sulphate of ammonia. When in flower, the trusses should be gently tapped at noon on all fine days. A bigger "set" of fruit would then result. Frogmore Selected and Sunrise are good varieties to grow. Avon.

1.—TOMATO SEEDLINGS READY TO BE PRICKED OFF. THE SEED IN THIS INSTANCE WAS SOWN TOO THICKLY.

2.—THE SEEDLINGS ARE TAKEN FROM THE POT AND PRICKED OFF 1½ INCHES APART IN BOXES.

HOW TO MAKE AND PLANT A HERBACEOUS BORDER.

When first confronted with the project of making and planting a herbaceous border, the inexperienced cultivator of the plants mostly used is at a loss as to what to do and how to begin the work. Usually, this work is done without much serious thought and consideration as to the kinds of plants to put in, their disposition and their season of flowering. Then there are the minor details, such as height of each kind, the spreading or erect habit, and the very important matters of colour blending, contrast, and the securing of harmony from season to season. Too often all these vital points are ignored, with the result that one sees herbaceous borders which are eyesores during a great part of the year. The position of the border should be an open one, and the soil the best that is possible. The flowers will well repay the best treatment that can be given, and the beginner should endeavour to excel in their cultivation.

Trenching the Soil.—Soils of all kinds should be deeply trenched before any plants are put in. Herbaceous plants, generally, are improved by frequent lifting, division and replanting; but there is no time more suitable for dealing with the soil than that before the border is filled. If very poor, add some rotted manure to the soil as the work of trenching goes on. Thoroughly break up the subsoil, but leave it below. The top portion need not be broken so finely, as it will be separated through the planting and by the action of the weather on it afterwards; and if of a heavy, retentive nature, it will also be considerably sweetened.

The Broad Border.—If the border to be dealt with is a broad one—we will say 9 feet wide—the tallest-growing kinds of herbaceous plants may be put in near the back of it; in fact, there will be sufficient space for all the leading kinds of various heights, both at the back, in the centre and in the front portion. Furthermore, each clump of plants must be of considerable size.

The Narrow Borders are more numerous than broad ones, and are more difficult to furnish satisfactorily. Very tall-growing plants must not be used unless as isolated specimens, well apart, the medium and dwarf growing kinds being the best. Whereas in the large border plants may be grouped in fives, sevens and nines, in the narrow border threes and fives are the more suitable. Shamrock.

PROPAGATION OF THE LEMON-SCENTED VERBENA.

This plant, correctly known as Lippia citriodora, may be increased freely during the spring and summer months by adopting the following methods: Place the old plants in the greenhouse or on a hot-bed, and water them. Spray them over daily until growth commences. When the young shoots are from 1½ inches to 2 inches in length, take a very sharp knife and sever them from the plant with a heel attached. Insert them around the edges of small pots, which are filled with very sandy soil. Make the soil very firm. Plunge the pots on the hot-bed, and place over them a hand-light or bell-glass. Provide shade during spells of bright sunshine. Keep the soil moist. Later in the season cuttings may be rooted without the aid of bottom-heat. The pots should, however, always be plunged in some moisture-retaining material, and be covered by a glass as advised above. Success is often attained by these simple methods, while failure sometimes follows attempts to propagate this delightful old plant by a more elaborate system in the stove or propagating house. C. Ruse.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Bedding Plants.—Continue the propagation of all such subjects until the desired stock is raised, potting or boxing off those already rooted as they become fit.

Surplus Herbaceous Plants.—Where large quantities of cut flowers are required, the surplus plants or offsets should be planted in beds in some out-of-the-way part of the garden, and where they may be cut from without depleting the herbaceous borders.

Seed-Sowing.—Many bedding plants are raised annually from seed, and, among others, the following should now be sown: Lobelia, Pyrethrum, Variegated Maize, Ornamental Beet, Statices, Nemesias, Celosias, Alyssum maritimum, Phlox Drummondii, Amaranthus, Perillas and Kochias. Thin sowing and an intermediate temperature are far the best for these plants, as they come more sturdy and need far less hardening off than when subjected, say, to a stove heat.

Plants Under Glass.

Begonias.—Winter-flowering Begonias that may have gone out of flower and been given a rest may now be cut back pretty hard, and if placed in a warm, moist house will soon begin to throw some good cuttings, though it is full early yet to commence propagating the main batch, as rather later cuttings often make the best plants.

Begonia haageana.—This is one of the foliage Begonias that are exceptionally useful either in the house or conservatory, and stands well for a long time even in a very dark situation. Cuttings put in now, three in a 3-inch pot, may be grown on into 8½-inch pots by the autumn, and without any pinching or training make quite good specimen plants.

Tuberous Begonias.—The present is also a good time for starting these for pot work, shaking them quite free of all soil, and placing them in boxes in a very light mixture of leaf-soil and sand. Here they will quickly make roots, and should be potted before they have made much top growth.

Pot Roses are now well in growth, and may be fed liberally as soon as the buds show. Climbers planted out in the houses will likewise be benefited by copious waterings of liquid manure, or occasionally a dressing of artificial. As the days get warmer and more ventilation is necessary, mildew is apt to be troublesome, so the plants must be either sprayed with a fungicide or given a very light dusting of black sulphur. This ought to be done as a preventive, rather than leave it till the plants are badly infested or the beauty of the foliage is lost.

Climbers such as Rose Dorothy Perkins, Excelsa, Tausendschön, Paradise, Goldfinch and Lady Gay may now be introduced into a little warmth, and they will make a nice succession to the earlier batches of Teas and Hybrid Teas. Plenty of room should be allowed between these tall plants to allow a proper development of the lower shoots, or it may be found that the top shoots only will produce good flowers, and thus mitigate considerably the usefulness of this class of plant.

The Kitchen Garden.

Onions and Leeks.—Sown in the early part of the year, the seedlings should now be advanced enough for pricking out, 2 inches or 3 inches apart, in boxes or in frames on a slight hot-bed, where they can remain till put out in the ground during April.

Cauliflowers. — These also will need attention, and though the above system will suit them well, I prefer to pot them off singly in 3-inch pots. A little heat is necessary immediately after pricking out or potting off, but as soon as they get hold of the fresh soil they may be hardened off in the cold frame.

Lettuces should also be pricked off as soon as large enough to handle, and to secure an early crop they also should be pricked off in frames placed on a hot-bed. Seedlings that may have been sown in rows between the Horn Carrots should be thinned out, and as this crop should be cleared off as early as possible, they may be left moderately close together and cut before they overgrow the Carrots in any way.

Peas and Beans raised in heat should be hardened off before they become at all attenuated, choosing a mild day for removing them to the cold frame. A further sowing of one or two exhibition varieties may be made in pots or boxes. These I find often make better and stronger plants after being planted out than do those raised in the open ground.

Parsley.—Though full early, a sowing should be made on a warm border, making the soil very fine before sowing the seed. This will come in before the main summer sowing, and possibly prevent a gap between this latter and the batch sown in August or September.

Fruits Under Glass.

Peaches.—Continue the disbudding as the trees get sufficiently advanced, and heeling in should also be commenced as soon as the shoots are long enough. Delay in this matter means curved and unsightly shoots, which no amount of attention at a later date will obviate.

Thinning the Fruit.—This is an operation that should be carried out gradually, leaving at least one-third more on the trees than is ultimately wanted for a crop till after the stoning period, this to counter-balance any loss that may be sustained during this critical time. Unfortunately, I have come across several gardens this season where the amount of blossom on the trees will hardly leave any surplus for thinning.

Hardy Fruit.

Apricots, Peaches and Nectarines.—Where tying or nailing has not already been done, it should be proceeded with at once. Many growers leave this as late as possible, keeping the shoots from the walls to delay blooming, and this is a good plan. But all flower-buds are very forward this season, and already those of some varieties are almost open, so further delay is dangerous.

Protection.—Where protection is provided for the above by means of blinds or canvas that can be let down at night, it should be fixed in position, as a severe frost might mean ruin to practically all the bloom-buds. Where no other protection is at hand, a fish-net, doubled, hung at a distance of 1 foot from the wall, will do a lot of good, and such a protection may with advantage be given to the Plums and Pears on the walls, as well as the Peaches.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Primula Sieboldii.—The varieties of this Primula are worthy of more extended cultivation. Here we have several beds of them, and they are gorgeous during the month of May. Those who have masses of them should at this season apply a slight top-dressing of some rich, light material. This is also a good time to plant. Avoid a southern exposure, give them a rich, friable soil with a cool bottom, and success is assured.

Sanguinaria canadensis. — The pure white flowers of this dwarf border plant are rather fragile and short-lived, but it should be in every collection. Those wishing to plant it should do so without delay. Give it a free soil, and it will be grateful for a slight admixture of peat in the compost.

Erica herbacea.—This harbinger of spring differs from most Heaths, in that it can be quite happy without peat, especially if it gets some sand and half-rotted Beech leaves. It will now have almost finished flowering, and may be increased by division. I once saw a large-sized bed of this Heath on a lawn in a Fifeshire garden, and the effect in early spring was very fine. E. h. alba is also good.

Salvia patens.—This Salvia gives us one of our finest blues, and is indispensable. It can be raised from seed in heat, which should be attended to forthwith. Old tubers may also be placed in heat to furnish cuttings.

Calceolarias.—Calceolaria amplexicaulis and any other bedding varieties should now be "lined off" in frames, placing some flaky leaf-mould or the rough siftings of loam under the compost, so that the plants may lift with good balls at planting-time.

The Shrubbery.

Pruning Evergreens.—Such vigorous evergreens as Laurels and Laurustinus may now be pruned. A start should be made with the Portugal Laurels. Whatever form is adopted, stiffness should be avoided. The knife is generally recommended for this work, but if judiciously used the pruning-shears will do the work equally well and more expeditiously. Where pruning has been neglected, however, the knife should be employed and the offending branch cut back considerably beyond the general surface of the bush.

Tree Pæonies.—Where these are employed in the shrubbery, a light framework should be placed round them for a few weeks, to support the protecting mat, when frost occurs to imperil the young, tender shoots.

The Pleasure Grounds.

Garden Furniture.—The time is not far distant when garden seats, hammocks and tennis nets will again be called into use. The whole should be overhauled, and any necessary repairs executed and painting done. For garden seats, Oak-grained or plain or a quiet olive green are the shades to be preferred. A coat of clear varnish will greatly help to preserve the paint.

Lawns should be well swept to disperse worm-casts and be afterwards rolled.

Plants Under Glass.

Gesneras and Nægelias.—These two genera are often treated of as being synonymous, and from the cultivator's point of view they are so. In addition to the named sorts, innumerable varieties of seedlings are in commerce. Such old favourites as zebrina and cinnabarina are indispensable. A batch should now be started.

Deciduous Calanthes.—The present is a good time to start these terrestrial Orchids. They can be grown one pseudo-bulb to a 5-inch pot, or three to a 6-inch pot.

Coleus.—Although not so popular as they once were, many of the varieties are very beautiful, and should find some place in the conservatory during the summer months. Cordelia, with orange red foliage, is a lovely variety while in a young state. C. thyrsoideus is also very attractive during winter with its plethora of bright blue flowers. Strike cuttings now.

Sweet Peas.—Autumn-sown Sweet Peas must get their final shift without delay, and have attention given to training them.

Fruits Under Glass.

Strawberries.—Plants whose fruit is swelling should be fed two or three times a week. Liquid cow-manure is excellent if used at moderate strength. A night temperature of 65° will suit this batch. Where the plants are in flower, great care should be exercised in admitting air, especially if cast winds prevail.

The Hardy Fruit Garden.

Grafting. — This interesting operation is of some consequence to the private gardener from the utilitarian point of view. Those who have any intentions that way, should proceed with their work at once.

The Vegetable Garden.

Peas.—A sowing of some second-early variety should now be made. Royal Salute and Senator are both excellent sorts, the latter being a great cropper and only 2½ feet high.

Broad Beans.—A planting of some longpod variety should now be made, and I am partial to Bunyard's Exhibition, with its long, well-filled pods. Plant about six inches apart in the row and 2½ feet between the rows. A dash of wood-ashes sown into the drills helps the various leguminous crops.

Carrots.—A sowing of one of the stump-rooted varieties should be sown on a south border to succeed those sown in a frame.

Parsley.—This takes about six weeks to germinate, so that a sowing should be made as soon as convenient.

Potatoes.—Tubers which were started in heat a few weeks ago should now be hardened off in a cold frame preparatory to planting.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

A NATIONAL DAFFODIL SOCIETY.

I CANNOT say that either the letters in THE GARDEN or any of those received privately have altered my opinion as to the suitability of establishing a National Society. I certainly do not write in any hostile spirit to the Royal Horticultural Society, nor yet to the Midland Society. I have seen the inner working of the former for a number of years, and I have come to the conclusion that it is out of its province to completely provide for the legitimate wants of the Daffodil people of the world. The supreme and only power is the Council. The Narcissus committee have no real authority *in themselves*.

Even the classification lists of 1908 and 1910 had to be submitted to the ruling authority before they could be issued. No money prizes for shows can be offered by the Royal Horticultural Society. This has had to be collected from people who, unless they happen to be members of the Narcissus committee, can have no voice in its spending.

It is everyone's business, I am told, to see to such things as the publication of a year book, the issuing of a schedule at the proper time, the recording varieties exhibited at shows, and such-like matters; but what is everyone's, I submit, is really no one's. As long as the supreme control is in the hands of an impersonal body like the Council, I do not see how it can be otherwise. *They* have not the driving power which is so *absolutely necessary if the attempt is to be a success.* The Midland Society has this in the person of Mr. Robert Sydenham. Its commanding position to-day is due to his personal efforts in a very large measure indeed, but the management is too local for it to take upon itself "National" functions, as few, except people who live in Birmingham and an half-an-hour radius by train, are ever present at the annual meetings.

Put in a very short form, my proposals are as follow: (1) A National Society to be formed, with the Royal Horticultural Society's Hall, London, as head-quarters. (2) The Midland to become "The Midland Branch of the National." (3) Each body to be independently managed and financed (4) Subject to certain conditions, which would be settled by a joint committee of representatives of both societies—this to include such matters as date of shows, classification of varieties, deputations, publication of a year book—a floral committee to act at both shows for making awards to new varieties, &c. (5) A low minimum annual subscription for what might be called the Southern National. (6) The collecting a special fund to start the new society, and form a nest-egg for future use when required.

It is asked by certain growers, seedling-raisers and dealers if all this will help to sell bulbs. I think it will, and I instance the Perpetual Flowering Carnation Society under the able guidance of its chairman. The formation of a National Daffodil Society will enlarge the circle of supporters, as not every Daffodil person by any means is a member of the Royal Horticultural Society. Hence wider interest and an extended market not only for show (to take the more expensive kinds), but also for the garden (to absorb the cheaper ones).

Lastly, as everyone would like to see the volume of support which the new venture is likely to have, might I ask those who are willing to support the proposal financially, and by becoming members, to kindly send me a post-card with their name and address.

JOSEPH JACOB.

Whitewell Rectory, Whitchurch, Salop.

ROCK AND WATER GARDEN.

THE FIFTY BEST ALPINES FOR SMALL GARDENS.

IT requires a considerable amount of temerity to submit a list of fifty alpines and to assert that they are the best fifty for a small garden. Criticisms, some of them doubtless well founded, will arise, but it must be remembered that several considerations have had to be taken into account. In a small garden not only is the space limited, but an effort has to be made to prolong the display during as much of the year as possible, and a representation of the various classes of plants should also be included. Then, while the easiest subjects need not always be included, it is necessary to confine ourselves to those which are not among the really troublesome flowers. Most of the strongest growers are omitted, but Aubrietias, Phloxes and Arenaria montana cannot be banished altogether. Exception may well be taken to the small selection of certain plants given here, but this is due to the necessity of affording as much variety as possible. Unless the owner of the garden is obsessed with his fancy for certain plants, he will be well advised not to make a collection of, say, Saxifrages, worthy though these are of our full consideration, but to cultivate alpines giving a more extended period of bloom.

It will be observed that a few bulbs are named, though the list of these might be greatly extended. For various reasons shrubs, with the exception of one or two, have been omitted. These and other sins of omission are due to reasons which seemed to the writer to be too powerful to ignore. It may be added with respect to the cultural notes and other information that sandy loam will answer for most of the plants named. Some like lime, but all will do without it. In conclusion, it may be said that the list is submitted in no spirit of self-sufficiency, although it is founded on an actual experience of at least thirty years in growing alpines in the rock garden. This really adds to one's diffidence in furnishing it, owing to the full recognition of its many omissions—omissions which may to some appear unpardonable offences against their favourites.

Name.	*Height. Inches.*	*Aspect.*	*Soil.*	*Colour.*	*Flowering Period.*	*How to Propagate.*
Acantholimon glumaceum ..	9	Sun	Loam	Pink	June and July	Seeds or cuttings
Adonis amurensis	9	,, ...	,, ...	Yellow.....	Feb. to April	Seeds or division
Æthionema grandiflorum ..	9	,, ...	Sandy loam	Rosy purple	July to Sept.	Seeds or cuttings
*Androsace lanuginosa.....	6	,, ...	Loam & grit	Rose	May to Sept.	,, ,,
Anemone nemorosa Allenii..	6	Shade	Loam and leaf-soil	Blue.....	April and May	Division
A. sylvestris major	9	,, ...	Rich loam	White	May and June	,,
Anthemis Aizoon	6	Sun	Sandy loam	,, ...	June to Aug.	Seed or cuttings
*Arenaria montana	6	,, ...	Loam & grit	,, ...	June and July	Seeds or division
Arnebia echioides	9	,, ...	Sandy loam	Yellow.....	May to Aug...	Cuttings or division
Asperula suberosa syn Athoa	6	,, ...	Sandy loam and grit	Pink	June and July	Division or seeds
*Aubrietia Moerheimii	4	,, ...	Sandy loam	Rose	April to June	Cuttings or division
*A. Dr. Mules.....	4	,, ...	,, ,,	Purple	April to June	,, ,,
*Campanula garganica hirsuta	6	Sun or shade	,, ,,	Pale blue ..	June to Sept.	Division
*C. portenschlagiana major..	6	,, ,,	,, ,,	Blue.....	,, ,,	,,
Chionodoxa gigantea	4	,, ,,	Common	Lavender ..	Feb. to March	Seeds or offsets
Crocus speciosus	5	Sun	Sandy loam	Blue.....	September ..	,, ,,
Cyclamen neapolitanum	6	Shade	Rich loam	Crims'n or w'te	Aug. to Oct.	Seeds
Dianthus neglectus	6	Sun	Sandy loam and grit	Cherry red ..	May and June	Seeds or cuttings
Erica carnea	9	Sun or partial shade	Sandy loam	Flesh or white	Dec. to March	Division
Erodium chelidonifolium ..	6	Sun	,, ,,	Pink	June to Oct...	Seeds, division and cuttings
Erythronium Pink Beauty ..	6	Sun or partial shade	Loam	,, ...	April	Offsets
Galax aphylla	12	Shade	Moist peat	White	May to July	Division
Geranium lancastriense	6	Sun	Sandy loam	Flesh	June to Sept.	Division and seeds
*Gypsophila prostrata rosea	6	,, ...	,, ,,	Pink	May and June	Cuttings and seeds
Haberlea rhodopensis	6	Deep shade..	Moist peaty loam	Lilac purple and white	May to Aug.	Division and seeds
Hypericum fragile.....	6	Sun	Sandy loam	Yellow.....	June to Sept.	,, ,,
Iberis Little Gem	6	Sun or shade	,, ,,	White	May to July	Cuttings & division
Iris reticulata	9	Sun	,, ,,	Blue, &c. ..	Feb. and March	Offsets and seeds
Linum alpinum	9	,, ...	,, ,,	Blue.....	May to Sept	Seeds and division
Leucojum vernum carpaticum	12	Sun or shade	Loam	White	Jan. and Feb.	Offsets and seeds
*Lithospermum prostratum var. Heavenly Blue	6	Sun or partial shade	Sandy loam and grit	Blue.....	May to July	Cuttings or division
Onosma tauricum	12	Sun	Sandy loam	Yellow.....	June to Oct...	Cuttings
Oxalis enneaphylla	6	Shade or partial sun	Sandy loam	White or rose	June and July	Division or seeds
*Phlox setacea Brightness ..	6	Sun	Loam & sand	Deep rose ..	April to June	Cuttings & division
*P. s. Nelsoni	6	,, ...	,, ,,	White	,, ,,	,, ,,
Primula marginata	6	Any	Sandy loam and grit	Blue lilac ..	Feb. to May	Division and seeds
P. pubescens alba (nivalis of gardens)	6	,, ...	,, ,,	White	March to May	Division
Ramondia Nataliæ	6	Deep shade..	Moist peaty loam	Blue-purple	June and July	Seeds and division
Saxifraga Aizoon Portæ	6	Sun or shade	Sandy loam and grit	White	May and June	Division
S. burseriana	6	Sun	,, ,,	,, ...	Jan. to March	,,
S. lantoscana	12	Partial shade	,, ,,	,, ...	May and June	,,
S. primulæoides	6	,, ,,	,, ,,	Rosy pink ..	,, ,,	,,
S. Wallacei	6	,, ,,	,, ,,	White	,, ,,	Division & cuttings
Sedum obtusatum.....	4	Sun	Sandy loam	Yellow.....	June to Sept.	Division or cuttings
Sempervivum arachnoideum	6	,, ...	,, ,,	Rose	June to Aug.	Division
Shortia galacifolia	6	Shade	Loam and peat	White & pink	,, ,,	,,
Silene Schafta	6	Sun or shade	Sandy loam	Rosy pink ..	Feb. to May	,,
Synthiris reniformis	6	Sun or partial shade	Loam	Blue.....	,, ,,	,,
*Tunica Saxifraga	6	Sun	Sandy loam	Rosy white	May to Sept.	Seed
*Veronica rupestris	3	Sun or partial shade	,, ,,	Blue.....	June and July	Seed and division

* Trailing.

S. ARNOTT, *Dumfries.*

HOT WATER AS AN INSECTICIDE.

Of all insecticides, water is the cheapest and, heated, is cleanly and effective. The summer before last the drought brought red spider on Apple trees, Gooseberries and other plants, and before the end of the season Vine leaves near the top ventilators were slightly affected. Last year it appeared on the same parts, and spread in a few days down the Vines. These were sprayed twice with perfectly clear water heated to about 180°, and this killed all the spider. "How about the fruit?" it may be asked. Provided the water is clean, no marks are left on the fruit, except here and there on the tip of an odd berry, and, if the foliage is clean, not even that. I have several times recommended washing bug-infested Vines with hot water. Some have tried it; others have been afraid to, though nothing is more effective for Vines in leaf. With the addition of a 3-inch potful of extract of Quassia to four gallons of lukewarm, not hot, water, it is a certain remedy for red spider on Peaches, and for both Vines and Peaches it is important to remember not to use strong insecticides. For aphis on Roses I like nothing better than soapsuds, into which some paraffin is churned with a syringe. A pint will do for a tubful, and this need not be applied hot.

I have once or twice had to deal with Camellias, Hoyas, Ixoras, Stephanotis, Crotons and other tough-leaved plants, which were filthy, not only with insects, but with dirt all over the leaves. In one case a man was kept constantly employed in the endeavour to wash the leaves of Camellias with a sponge and water, but he never seemed to make any progress. A thorough washing through an engine with very hot water, rendered more effective with soft soap in solution, brought off the dirt in scales, and, while moist, the rest was rapidly removed with a sponge. A proprietary wash I have found most effectual in destroying scale is Bentley's Insecticide. Sprayed, it goes a long way; but it is no use whatever spraying or washing with this or any other liquid unless enough is used to reach every part.

For destroying thrips, red spider and mealy bug on the majority of plants, nicotine vaporised is undoubtedly the best insecticide we have. It injures few plants, even when used much stronger than the several brands on the market are recommended to be used. The vapour finds its way where a liquid insecticide cannot, and though expensive, if carefully used—taking its effectiveness into consideration and the facility of its application—it must be allowed to stand at the head of all insect destroyers. What of hydrocyanic acid gas? It is true it is equally—perhaps in some cases more—destructive, but there is always a risk attending its use. Neither this nor nicotine can be used for Vines and Peaches in leaf unless at great risk to the foliage. Paraffin is also a dangerous material to employ unless one is thoroughly acquainted with the proper proportions to use, and usually, for Vines and Peaches, it should be dispensed with. I have found it most useful for destroying ants in vineries. The method of using it is as follows: A pan is three parts filled with boiling water, and the paraffin added and stirred through the water till it is equally hot. All surfaces on which ants are found are then sprayed with the pure paraffin which floats on the top of the hot water, a few applications destroying strong colonies of these destructive insects. An application of the same kind, applied while the trees are at rest, destroys American blight on Apple trees. Tobacco powder should always be at hand to destroy insects where circumstances render the application of either a liquid or vapour difficult or impossible. For Chrysanthemums in summer and for Carnations in beds, a pinch of this material is of very real value, applied at the right moment. I have found it very useful, too, for Eucharis mite, applied above the bulbs, moisture soaking it down between the scales. Last autumn our Cyclamen were severely attacked with a mite on the foliage and extended to the buds. Besides vaporising with nicotine, the buds have been repeatedly dusted with Tobacco powder, and except a few distorted blooms at the beginning of the season, all the later ones have come perfect.

After all, hand sponging cannot be entirely dispensed with. If there are no insects, there is still a certain amount of dirt that gathers on the leaves, and hand washing is therefore imperative. It is one of the curious facts connected with practical gardening that one finds almost all young men proceed in the same manner. They dip their dirty sponges into the insecticide or wash, and soon render it as filthy as, or more so than, the plants operated on. Now, the way to proceed is to have a somewhat large vessel with clean water, into which to wash the dirty sponge thoroughly every time before dipping it into the insecticide, and a sponge not too wet cleanses better than a saturated one. The insecticide, if the washing is done in this way, never becomes dirty. Some plants can be most effectively cleansed by spraying the leaves lightly over, then rubbed over with a large sponge or soft cloth, the process of cleaning these when soiled being the same as that just noted. Many house plants on which dust settles are best kept clean by rubbing frequently with a dry cloth.

R. P. Brotherston.

CULTURAL HINTS ON NEW AND RARE PLANTS.

TREES AND SHRUBS.

Cornus Nuttallii.—American publications describe this Dogwood as one of the most beautiful objects in the forests of Western North America, for not only are the inflorescences conspicuous by reason of the six large, cream-coloured bracts which surround each head of flowers, but the foliage colours brilliantly in the autumn. To succeed with it in this country it is necessary to provide a sunny position in deep, well-drained, loamy soil.

Tricuspidaria dependens, an evergreen shrub with pendulous white flowers which have delicately-fringed petals, forms an excellent subject for a wall. Planted in light, loamy soil with an east, west or south aspect, it may be expected to grow rapidly and give little trouble, save an occasional pruning. Cuttings root readily during the summer, and form a good means of increase. It must not be confused with the red-flowered T. lanceolata, which is sometimes called T. dependens.

Decaisnea Fargesii is a bushy plant from China, conspicuous on account of its long, pinnate leaves, greenish yellow flowers, and violet, sausage-shaped fruits. It may be expected to thrive in the milder parts of the country if given a sheltered position and light, well-drained, loamy soil.

Hamamelis mollis.—This is the best of the Witch Hazels, for the flowers are larger, clearer coloured and borne more freely than those of other species. Although usually grown as a bush, it may be made to assume a tree-like habit by judicious pruning. The best results are obtained by planting it in light, loamy soil, into which a little peat has been mixed.

Cotoneaster humifusa may be distinguished from other Cotoneasters by its long, trailing branches, which rise but an inch or so above the ground. This peculiarity fits it well for planting about rockwork or to cover an upturned tree butt, for the branches take root wherever they come in contact with a little soil, and spread rapidly over a considerable area. Its evergreen leaves and red fruits are its chief attractions.

Stachyurus præcox.—Although this early-flowering shrub has been known for many years, it is rarely grown, yet when covered with its pendulous catkins of yellow flowers in March it is very attractive. It requires a light, well-drained soil in an open position where the branches can become thoroughly ripened in autumn.

BOOKS.

Crops and Methods for Soil Improvement.*—Books on farming and gardening come thick and fast, some dealing with particular plants, many little better than recipe books, a few dealing with principles. The present volume belongs to the last group, and deals with the basis of all commercial cultivation—the method of maintaining the fertility of the soil. It deals with large cultures, more for the farm than the garden proper, but many of its chapters will prove suggestive to the thoughtful gardener. It preaches the gospel of lime in the first place, and insists upon the need for lime in all ordinary cultures. We are continually meeting with cases in which lime is deficient in the soil, and the latter acid in consequence, the result being poor growth of the more commonly-cultivated crops and the encouragement of many of the more common insect and fungus pests. Clear accounts—and, indeed, the whole book is marked by lucidity of expression—of the forms of lime, the quantity to be applied and the time of application follow the demonstration of its need, and then the question of organic matter in soils comes under discussion.

We would like to have seen a little more concerning the use of green manures other than those of a leguminous nature, but probably their use is greater in the garden than on the farm, where the land would otherwise be lying fallow for a longer period than it does in the garden. In this country gardens are likely to suffer considerably from the increase of motor traction; indeed, the difficulty of obtaining stable manure is already keenly felt in many districts, but green manuring with such rapidly-growing plants as Mustard will help very much to fill the gap caused by the shortage of stable manure.

A chapter on the sources of the necessary nitrogen, potash and phosphoric acid will also be of value and interest to gardeners, while the discussion of crop rotations will also be most suggestive to the grower of vegetables.

We cannot close this brief notice without a further reference to the author's clear style and the freedom of the book from unfamiliar technical terms; but the omission of an index is a drawback not by any means compensated for by the full table of contents at the commencement of the book.

* "Crops and Methods for Soil Improvement." By Alva Agee, M.S. Macmillan Company, New York.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden W.C.

NOTES OF THE WEEK.

New President of the Royal Horticultural Society.—We understand that Field-Marshal Lord Grenfell of Kilvey, G.C.B., G.C.M.G., F.S.A., has been invited to become President of the Royal Horticultural Society in place of Sir Trevor Lawrence, Bart., who, as we stated in our issue of February 15, feels compelled to relinquish the position on account of failing health. We believe that Lord Grenfell is likely to accept the invitation.

The Caucasian Scabious.—Before the planting season is over, we would draw attention to this useful and beautiful herbaceous plant. For cutting purposes during the late summer and autumn months it is ideal, the long, slender stems, with their delicately-poised, pale blue flowers, lending themselves well to artistic arrangement. Given good soil in an open position, it is not at all a difficult plant to grow, and it can be bought cheaply under the name of Scabiosa caucasica.

Black Currants Reverting to Wild Type.—When looking over a large plantation of well-grown Black Currants in the Malvern district a few days ago, the owner told us that he was considerably troubled by bushes reverting to a useless or almost wild type. This reversion had reached rather serious dimensions, and the only remedy was to dig out such bushes and plant others in their stead. Perhaps growers in other districts can give us their experiences with this fruit.

The Golden Valerian in Spring.—The golden-leaved Valerian, Valeriana Phu aurea, is not much seen nowadays, but it is useful in spring because of its foliage effect. It is much brighter at that season than later, and many years ago one was much struck with the effect it made in a long herbaceous border, where it was associated with Orobus vernus, then in bloom, and with the young growths of the Hemerocallises, Tradescantias and Pæonias. There the golden leaves of the Valeriana made a really fine display.

Growing Sphagnum Moss for Orchids.—It is obvious that sphagnum moss which can be procured fresh must possess far better qualities than that sent out for sale after having been kept in sacks for at least several weeks. Where Orchid-growers have a shallow depression which will hold water, says a writer in the current issue of "The Orchid Review," it is quite easy to grow one's own sphagnum. It does not require running water, but likes to have it standing at an even height, it possible a few inches below the level of some Willow clumps, around which it will grow in the greatest profusion. It seems to like shade, direct sunshine on it during the summer months turning it yellow; but, providing water is kept round it, not much harm will be done. The planting of a new bed in the first instance is by no means difficult, and if a genial autumn follows, an astonishing amount of growth is quickly made.

Silver-Leaf Disease of Plums.—This fungus is spreading rapidly in many of the fruit-growing districts in this country, and is causing serious loss among Plum trees, the variety Victoria seeming to be the most susceptible to its ravages. It is difficult to understand how it is spreading so rapidly where trees are well tended, because scientists tell us that spores can only be produced on dead wood. Is it possible that some stage of its life-history has been overlooked? Its presence in a tree is manifested by the foliage taking on a silvery grey tint.

Repotting Room Ferns.—Towards the end of March and during the early days of April is the best time of the whole year for repotting Ferns that are grown in the dwelling-house. Just at that time root growth is becoming very active, and the new soil is quickly filled with roots and stagnation thus avoided. Good soil for ordinary kinds of Ferns is composed of well-decayed, fibrous turf two parts, one part sweet leaf-soil or coarse peat, and half a part of coarse sand or grit. The loam should be pulled into pieces about the size of pigeons' eggs, and ought to be kept in a warm place for a day or two before repotting. The new soil must be made quite firm when repotting, and thorough drainage and cleanliness of the new pots are essential.

The Teneriffe Broom.—A specimen of Cytisus proliferus, the Teneriffe Broom, is at the present time an important feature in the Himalayan House at Kew. Planted out in one of the borders, the growths are trained to, and clothe, one of the several pillars of this house to a height exceeding 12 feet. A native of Teneriffe, Cytisus proliferus is occasionally seen thriving well outside in the warmer parts of the South and West. Those who have bare pillars and walls to furnish in large conservatories will find this Broom a most useful climber. Flowering in early spring, the plants respond to liberal pruning after flowering, making young growths up to 3 feet or more in length, which hang gracefully from the pillars wreathed in creamy white blossoms disposed among the ternate leaves.

An Evergreen Bush Honeysuckle.—Under the name of Lonicera nitida a valuable evergreen Honeysuckle of recent introduction from Western China bids fair to become permanently established in our gardens. Introduced by Messrs. J. Veitch and Sons, Chelsea, through their collector Mr. E. H. Wilson, it has already received an award of merit from the Royal Horticultural Society. Lonicera nitida forms a neat, compact bush, with small, upright shoots clothed with little Box-like leaves, their general appearance suggesting a small-leaved evergreen Veronica rather than a bush Honeysuckle. It roots readily from cuttings, and, growing freely in most soils, L. nitida should soon be widely grown in borders and as a specimen for the rock garden. In Western China the bushes are said to ultimately attain a height of about six feet; the flowers are creamy white and fragrant.

CORRESPONDENCE.

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

Crocus candidus sulphureus.—A yellow variety of the charming Crocus candidus seems rather a novelty, but we have it in the variety sulphureus, which I owe to the kindness of Mr. E. A. Bowles. It is a handsome Crocus of good size and with plenty of substance. It is hardly properly called sulphureus, as with me, at least, the colouring is considerably deeper than sulphur. It is not only pretty in itself, but is interesting as showing the great range in colouring which exists among the Crocus species and their varieties.—S. Arnott.

A Good Dwarf Shrub.—I was particularly struck last summer with the beauty of Genista tinctoria flore pleno, a compact and dwarf-growing shrub, which bore its yellow flowers in the greatest profusion. It grows about twelve inches high and appears to thrive in almost any soil or situation, for I saw it both on the rockery and in a border of herbaceous subjects where the soil was quite a heavy loam. It is undoubtedly a very attractive and bright little plant, which is free-growing, and will thus form a nice spreading patch in a short time. There is also a single form of G. tinctoria, but I should certainly select the double variety.—S.

The Colour of China Asters.—Is there any hope that seedsmen may be persuaded to name correctly in their catalogues the colours of the Asters they offer? At present nothing could be more foolish, misleading and exaggerating. When they are fairly correct as regards other flowers, why do they go so much astray when describing Asters? I have suffered in silence, hoping against hope year after year that by selecting carefully (!) named colours, such as blush pink or royal purple, my garden might not be wrecked on the magenta rocks. Last year I made one more attempt. I chose white streaked faint lavender, and white streaked light flesh. How I tended and cared for the little seedlings and watched their growth, and with what joyful expectancy I waited for the first flowers! Alas! I had border after border of Asters white with hard bands of violent purply or pinky magenta. The effect was appalling. If I order a pink coat from my tailor and he sends me a magenta one, I can return it. Why could I not return my nightmare Asters? The whole thing is extremely vexatious. I can see no reason why proper colour names cannot be given to Asters as to other flowers. Is it that seed does not come true, or that seedsmen are colour-blind?—E. M. Hadow.

The Tiger Lily in Pots.—The Lily chat that we have had in The Garden of late has been particularly interesting to lovers of this beautiful, but in some cases erratic, class of plants. Reference to the forms of the Tiger Lily recalls the fact that all the varieties are not of equal value for growing in pots, a mode of culture which for business reasons I was forced to adopt a few years ago. It was very necessary to have a group of Tiger Lilies in flower at about their normal period of blooming, but they were required to be established in pots. For this method of treatment the variety splendens proved much superior to any others. As I have seen different forms bearing the varietal name of splendens, it may be as well to say that the one referred to is that grown by the Dutch for very many years, sometimes as splendens and sometimes as Leopoldii. It differs from the type in several particulars, for the lower part of the stem is quite smooth and almost black; next, the leaves are fewer in number, but broader and of a deeper green, while the flowers are larger, brighter in colour and with fewer spots. These are, however, larger than in the other forms. Under pot culture the variety splendens retains its leaves very much better than any of the others, the very woolly-leaved Fortunei being, under this mode of treatment, liable to get bare at the base. The variety flore plena, though the best example of a double Lily that we have, is not to my liking.—H. P.

The Red Cup Moss.—The pretty scarlet fungus known popularly as Red Cup Moss, the botanical name of which is Peziza coccinea, is one of the loveliest of the common objects of a country walk in the winter-time. It may now and again be found in the hedgerow, but never in quantity, for growing as it does on rotten wood, it is only where this occurs in abundance that it is at all common, and the most likely spot to find it is in an old wood or spinney where the ground is moist. In one place, close to the road, where an old plantation is never touched from year to year, it is to be found annually in the winter-time in great numbers on the damp ground, the little red cups glowing on the dark wood in dozens. Few, perhaps, are aware what a delightful and lasting indoor decoration this Red Cup Moss will provide if it be only artistically arranged. The scarlet fungi should be carefully taken up, each with the little piece of wood to which it is attached adhering to it, and cautiously carried home in a basket. A shallow dish or china saucer should be obtained and partially filled with water. Sufficient fresh Moss should be placed in the saucer to fill it, this being of a rough and not close-growing description, the so-called Fern Moss, a Hypnum, being the prettiest that can be procured. A couple of dozen fungi, if the saucer is large enough, these ranging in size from half an inch to 2 inches across, will afford a charming and uncommon decoration for the living-room during the depth of the winter, and will retain their colour and freshness for a month or more.—Wyndham Fitzherbert.

Primula denticulata.—I heartily agree with your note in The Garden for February 15, page 77, relative to the above and its variety cashmeriana. The soil of my garden being very light, I have found it difficult to get a spot sufficiently moist for the summer months in any border, yet during the winter the wet has caused the crowns of the plants to decay, and I shall have to start with a fresh stock. Can you suggest any method of cultivation which would obviate the loss of such beautiful spring-flowering plants? Could they be lifted in the autumn, placed in 5-inch pots in a cold frame and flowered effectively therein?—Himalaya. [What is really needed is that the plant be afforded some covering in imitation of the deep snow covering of its native home. For this we know of nothing better than a mound of new Cocoanut fibre, which is at once light, warm and protective. In conjunction therewith the soil should be well drained, despite the fact that the species is of a moisture-loving nature. In winter it cannot utilise the moisture; hence the trouble. With the shelter of a wall and in light, sandy soils heavily dressed with cow-manure, we have grown this in Northern gardens to far greater perfection than is usually attained by treating it as a bog plant. Hence you might try lighter soils and afford the above covering for some while, potting up others in September and giving them cold-frame treatment. We imagine you will get the finer heads of flowers from the undisturbed plants. The plants should be so covered up while perfectly dry early in November. The covering should be cone-shaped to throw off wet. At the end of February it should be removed.—Ed.]

An Uncommon Greenhouse Plant (Amphicome Emodi).—This greenhouse plant is said to succeed on the rockery if protection from wet and severe frosts is afforded. It is, however, usually seen as a pot subject, and its bell-shaped, rose and orange flowers are produced from July to October. Overpotting must be guarded against, and a compost of loam, leafmould and sand will be found most suitable. At the present time cuttings made from the young shoots may be inserted in sandy soil and placed in gentle heat, where they will soon root, and if judiciously potted on will form nice flowering plants in a comparatively short time. Seed can also be sown in well-drained pots or pans during the months of March and April, and if arranged in the greenhouse, germination will soon commence. Amphicome Emodi belongs to the Natural Order Bignoniaceæ. It is rather dwarf in habit and is of a perennial character.—S.

The Flowering of Fruit Trees.—No one can help admiring the exquisite beauty of the white and rose petalled branches of our fruit trees in spring; but they have another interesting phase to which I would draw attention, and that is the order in which they open their flowers. My observations extend over two successive years, but those of last year only are given, while my notes are somewhat restricted owing to the limited number of varieties under my charge, and also to the fact that both years I omitted to note several sorts of Apples. It is my intention to make notes again this season, when I hope to include the previously omitted kinds. In each case the date given is that upon which the first flowers opened. Jefferson's Plum, March 24; Archduke Plum, March 27; Coe's Golden Drop Plum and May Duke Cherry (both growing on a fence), March 31; Victoria Plum, April 2; Czar Plum, Transparent Gage Plum and Archduke Cherry, April 4; Empress Eugénie Cherry, April 6; Pear Williams' Bon Chrétien, April 7; Pear Doyenné du Comice, April 14; Morello Cherry, April 11; Catillac Pear, April 15; Apples—Irish Peach, April 18; Lord Suffield and James Grieve, April 21; Potts' Seedling, April 22; King of the Pippins and Flower of Kent, April 23; Worcester Pearmain and Cellini, April 24; and Lane's Prince Albert, April 25. A comparative perusal of the above varieties and dates will disclose the fact that all early varieties do not open their blossoms before some of the late varieties begin to do so. To the writer, at least, this seems rather strange. One would naturally think that the earliest fruits to mature would be the first to hasten into blossom; but it is not so, apparently, with Apples and kindred fruits. On the other hand, the varieties of Strawberries, Currants and Gooseberries do, so far as I have been able to watch them, open in their order of coming to maturity. Has any other reader ever made like observations, or can anyone suggest a reason for the above methods being followed? Of course, the actual dates on which the flowers open each year will vary, depending chiefly upon four factors, namely, the earliness or otherwise of the spring, the warm or cold nature of the soil, whether grown in the open or a shaded position, and early or late pruning; but these conditions would not affect the order of varietal flowering in any given garden.—C. Turner.

A Noble Fern.—I send you a photograph of a very handsome Fern, Aspidium angulare acutilobum (the Soft Prickly Shield Fern), grown in a beautiful garden in Surrey, at Whitmoor House, Sutton Park, near Guildford, belonging to Philip Witham, Esq., where I often visit, and which garden I helped to remake. The Fern now measures 6 feet across and 3 feet 6 inches in height, and is quite the finest specimen of the kind I ever saw. It was originally growing on an old and badly-constructed rockery close to the house, which was done away with some six or seven years ago, and planted in its present position by the edge of a walk leading to the tennis courts and herbaceous borders, in a kind of semi-wild garden. The position and soil evidently suit it, as it has more than trebled in size.—C. M. Wolseley, *Wolseley, Stafford.*

Lachenalias, or Cape Cowslips.—I call these always my February flowers. Writing in the early days of the month, I am daily watching my precious treasures colouring and opening. As usual, the famous old Nelsoni and Rose Barton lead the way, but some of the red edgers are just showing, Ruby, Brightness and Phyllis Paul among the number. This year my patience is being rewarded in a handsome manner. I am about to enjoy what their great high priest, Sir Frederick Moore, has been doing for a long time—that is, the gradual unfolding of a number of my own seedlings. In dwarf pots the best varieties look splendid, and they are so good for bringing into the dwelling-house, as they last a long time in bloom, and if they are grown "coolly" the spikes need no support. After my late awful attempt at classical Latin, and profiting by "G. H. E.'s" wigging, I am taking refuge in a more doggy style, and say to those who want a flower of much quiet beauty and of great interest, "Growienda est Lachenalia."—I. Jacob.

The Servian Spruce.—An interesting fact about the Servian Spruce, Picea Omorica, is that, though a native of Central Europe, no evidence of its existence is recorded until 1875. It is a native of the mountains of South-West Servia, Bosnia and Montenegro, growing at an altitude of from 2,000 feet to 5,000 feet. Several trees raised from seeds received from Belgrade in 1889 are bearing cones at Kew. These are 1½ inches long, rather less than half an inch in diameter at the broadest part, and borne near the top of the tree. In its native country the Servian Spruce varies from 50 feet to 100 feet in height. The largest trees in this country are from 30 feet to 35 feet high. Compared with the height of the tree, the branches are short, giving the tree a pyramidal outline. A large number of trees are growing at Kew in varying stages from a couple of feet upwards, the tallest tree, twenty-four years old, being about thirty-two feet high. The behaviour of these trees suggests that, particularly considering the atmosphere of Kew, Picea Omorica will be a valuable decorative tree for extensive planting. It is one of the flat-leaved Spruce Firs, its nearest allies being P. ajanensis, P. hondoensis and P. sitchensis. In some books the specific name is spelt P. Omorika.—A. O.

FORTHCOMING EVENTS.

March 10.—United Horticultural Benefit and Provident Society's Meeting.

March 11.—Surbiton Spring Show.

March 12.—North of England Society's Spring Show at Bradford. East Anglian Horticultural Club's Meeting. Clevedon and District Spring Bulb Show.

THE HEATH GARDEN.

PROPAGATION OF HEATHS.

(*Continued from page* 110.)

PROPAGATION is effected by seeds, cuttings and layers, the former being only practised in the raising of hybrids, although self-sown plants of the common Ling are to be found in great quantities on the hills and moors of Britain. A favourable seed-bed for these is, however, only found after a quantity of Heather has been burned off and the ground rendered bare of vegetation for a time. As is well known, where large tracts of Heather are found on grazing land, a portion is burned off annually to provide a succession of fresh young shoots as food for sheep and grouse, but when, for the want of sufficient draught to enable the fire to consume the plants rapidly and pass on before the heat has had time to destroy the roots, the slow combustion may destroy all life and render it necessary to procure a crop from self-sown seeds, the process is, however, slow, and several years must elapse before it again becomes good feeding ground.

Propagation from cuttings is also slow, but is a successful enough method if carried out with sufficient care. The cuttings should be selected from half-ripened shoots of the current year's growth and placed around the edges of pots filled with a sandy compost. After receiving a good soaking of water they should be placed in a cold frame or under a bell-glass; secure from frost until rooted.

Layering.—The most satisfactory method, however, of increasing the stock of hardy Heaths is by layering, as this can be done in the open, unless where the soil is unsuitable, in which case a cold frame may be utilised, filling it to sufficient depth with a light, sandy compost.

As all the Ericas are liable after a few years' occupation of the beds to become leggy or straggling, replanting with fresh dwarf plants becomes necessary, and for this purpose it is a good plan to have always a few plants in reserve. These should be planted or laid on their sides with the shoots buried up to within a few inches of the tips; when left thus for a year or eighteen months, fresh roots will have been produced from the hard stems, and young plants or tufts of a convenient size for replanting will be easily secured. In replanting the beds with young plants it will not be necessary to entirely renew the soil; the addition of some well-decomposed manure will generally be found sufficient, well mixing it with the compost. Top-dressing the beds annually with stable manure is found of great advantage to the plants; this should be secured, if possible, where the stalls or boxes have been bedded down with moss-litter. A little of the material taken fresh from the stable and shaken among the plants during their season of growth will well repay the trouble by assisting the production of strong, healthy growth and abundance of flowers.

Selection of Varieties.—In making a selection of varieties, one must be guided by the extent of ground to be treated, by the climate, and whether spring or autumn flowering varieties are most desired. The most interesting selection, however, would be one in which all varieties are represented and planted with a view to having the beds flowering in succession during the greater part of the year. Where a number of beds can be conveniently arranged, each should be planted with varieties flowering about the same time, in preference to having them filled with many sorts flowering at different periods. The grouping of colours should also be carefully studied along with their comparative heights, commencing with those that flower early in the year. A large bed might be devoted to Erica multiflora, E. codonodes, E. carnea or herbacea and its varieties. Arborea, under favourable circumstances, will grow to a height of from 4 feet to 6 feet, and, indeed, sometimes attains to the dimensions of a small tree. This plant is said to provide the wood from which the so-called Briar-root pipes are made, and is largely imported from France to this country

A BEAUTIFUL HARDY FERN, ASPIDIUM ANGULARE ACUTILOBUM, IN A SURREY GARDEN.

for that purpose. It may form the central figure of a large bed; the flowers for the most part are white, although several varieties in different colours are recorded. E. lusitanica or codonodes, occasionally known as E. polytrichifolia, closely allied to E. arborea, is also a tall grower, reaching a height of 4 feet; this is a most beautiful variety, with white flowers borne very profusely, and having foliage of a pleasing soft green. E. multiflora is, perhaps, the earliest to show flower, producing its blossoms of a pale red colour sometimes in the last weeks of December, if the weather at that time is at all favourable. Its average height is about two feet, and is well adapted for planting between the first two named and the dwarf varieties of E. carnea with which we would finish the planting of the early bed. E. carnea forms dense tufts of pink flowers, and rarely exceeds a height of 6 inches. It is one of the freest, both in growth and flower, of the whole genus, and should be included in every collection. E. c. alba, often catalogued under the name of E. herbacea, is of slightly dwarfer dimensions than the former, but otherwise an exact counterpart in all but the colour of the flowers, which are white. When grown in quantity these lovely little Heaths provide some of the earliest forage for bees, and together with the tall varieties, already named, give a display during the first three months of the year; but before they have quite gone out of flower other varieties are rapidly coming forward. During the period from March to May, E. mediterranea in numerous colours will serve to keep up the succession, and several beds may be devoted to this section. The type grows almost three feet high, and has flowers of a pleasing shade of red, and should be planted towards the centre of the bed or well back from the margin of the border; the others, being mostly of a uniform height of from 9 inches to 12 inches, according to the suitability of the soil and climate, may be disposed in patches or blocks to fill up the beds according to the ideas of the planter. E. m. glauca is distinct in habit, being a very compact grower bearing red flowers; this variety requires somewhat closer planting than the others to enable it to cover the ground properly and avoid a certain stiffness in form that it assumes when given too much room. E. m. hybrida has somewhat larger and brighter individual flowers on shorter stems, and usually flowers were early, particularly in the southern counties. E. m. rubra might be described as a deep pink; E. m. nana and E. m. stricta both being red. The first four named should serve for most purposes, except where a very full collection is desired. T. Wilson.

The Gardens, Glamis Castle, N.B.

(To be continued.)

ROCK AND WATER GARDEN.

THE "MULCHING" OF ALPINES.

In many parts of this country alpine flowers suffer greatly from the want of moisture at the roots during their growing season, and, on the other hand, from too much surface wet at times when they should be at rest. In spring, especially when the parching "March" winds (which, of course, do not always come in the month which gives them their name) lick up every drop of moisture and leave the plants thirsting for the genial rains of the spring, many of these alpine flowers suffer enormously. Often carelessly planted and in uncongenial conditions, they miss the moisture supplied at home from the melting snows, and, alike above and below ground, have much suffering and trial to endure. It is easy to realise the vast difference between the plant growing in the moist soil of the mountain-side with its roots constantly supplied by the melting snow, and the same flower on a dry rockery subjected to the parching winds of some of our springs.

This condition may be mitigated by the roots being snugly tucked away under or between stones, but there is nothing so good as a thick "mulching" of something which will not only ward off the scorching winds, but will serve as a non-conductor and keep the plant free from excessive changes of temperature, and will at the same time retain moisture. If we can attain this object, and also prevent the plant from receiving injury from excessive rains in winter, we shall overcome many of our greatest difficulties in the cultivation of certain flowers.

The moraine is almost magical in its effects in this direction, but it is not everyone who can have one, although small and simple moraines can be constructed at very little expense. We can, however, give nearly all the benefits of the moraine by mulching our plants with small chips or gravel, or, almost as well, with some rough grit. It is many years since the writer learned from actual trial how beneficial a thing was a thick mulch of the rougher grit from the seashore close to where he lived. With 1 inch or 2 inches of this about the plants, it was wonderful to see the benefits which resulted. Troublesome subjects were much easier to grow, and many easy things were still easier to accommodate, when so mulched with this material. Small chips, such as are now so much employed on roads, are every whit as good, and the mulching may be from 1 inch to 3 inches or even 4 inches in height. An excellent mulch is composed of a combination of the chips and the grit, and its application is followed in many cases by results which are perfectly surprising. Plants which suffer from the drying spring winds are protected at the roots by this material, with its "layer" of air between the stones. Any rain which falls, or any water artificially supplied, runs freely through the mulch and is conserved when it reaches the soil. In times when there is an over-supply of moisture, the parts of the plant which are most liable to rot off are saved by the dry chips about them; and all those which require glass protection, *i.e.*, such subjects as some of the silky Androsaces and other things with woolly or very hairy foliage are much benefitted.

This mulching with chips or gravel may be applied at any time, and in the case of low-growing, carpeting subjects it is wise to add it gradually, so as to allow the plants time to grow up among the mulching material, and not to smother them by too thick a layer at once. This "mulching" is simplicity itself, but it is most efficacious. Old Alpinist.

A PLANT OF SAXIFRAGA GRIESBACHII WITH FIVE FLOWER-SPIKES.

SAXIFRAGA GRIESBACHII.

This is a plant all alpine specialists are anxious to grow well, but it rarely thrives up to one's expectations in the gardens of this country. It was introduced to cultivation ten years ago, when it received a first-class certificate from the Royal Horticultural Society and created quite a sensation among the rock gardening community. It was at first thought likely to become a popular subject for the rock garden, but many have found to their disappointment that such is not the case. Now and then, however, one alights upon a garden where it succeeds fairly well. Its greatest enemy is damp, and it appears to give the best results when grown upon a small cone of stones in a sunny position. The plant illustrated is a particularly good specimen, carrying no fewer than five healthy inflorescences. Each rosette develops into a flower-spike, the calyces and flowers being bright crimson, and, after flowering, young rosettes appear at the base of the flowered crown. Saxifraga Griesbachii is a native of the mountains of Albania and Macedonia, and is one of those cherished plants requiring more than ordinary care.

THE FRUIT GARDEN.

THE APPLE-SUCKER.

How Fruit Trees are Attacked: Brief Life-History of the Pest.

The apple-sucker (Psylla mali) is certainly one of the most destructive pests of the orchard. The particular object of its attack is the bud, which it enters immediately the awakening life in spring sufficiently expands the protecting scale leaves to enable it to crawl inside. At this period the tiny creature—a flat, dirty yellow larva(A) with bright red eyes—has just hatched out from the egg, being one of hundreds of others laid the previous autumn on the young shoots and fruit-spurs of the tree. Once inside the bud, it feeds by stabbing the delicate tissues, and by suction of the nutritive juices of the young leaves seriously interferes with their normal development. Leaves so attacked (especially if the larvæ are numerous) partially lose their healthy green colour, and become pale, shrunken and curled. The vitality of the leaves is lowered, hence their power to manufacture starch is reduced, and this in turn lessens nutrition and weakens the seasonal growth. But bad as this is, it is not by any means the end of the trouble. For so soon as the flowers begin to push out from the bud, the larvæ are able to attack the soft, sappy tissues of the lengthening peduncles (or flower-stalks) and to so injure them that they fail to transmit the necessary food and water, and then, of course, the blossoms wither and die and all chance of fruit is gone for the season. The dead flower-trusses will hang on to the spurs for a long time, and a very large number of gardeners wrongly attribute the damage to late spring frosts, and thus fail entirely to recognise the presence of these dreadfully destructive little pests. The rest of their life-story is soon told. After two or three moults the larvæ gradually pass into the nymph stage(B); they grow a little bigger, their colour changes to green, and wings gradually develop, until finally, in late May or early June, they become transformed into first green and then variegated winged adults, from one-tenth to one-eighth of an inch in length. In this stage of their existence they are apparently harmless. Towards the middle of September and until about the beginning of November the females begin to lay their eggs, selecting for this purpose the hairy surfaces of the youngest twigs, the leaf-scars round the bases of the lateral buds, and particularly the rough surfaces of the fruiting spurs. The eggs are minute, but, still, they can be easily seen if searched for. They are oval in form and securely fastened to the twig by means of a glue-like material.

RUPTURED EGG-CASE OF PSYLLA—LARVA ESCAPED (ENLARGED TWENTY-FIVE TIMES).

LARVA OF PSYLLA (ENLARGED EIGHT TIMES).

NYMPH OF PSYLLA (ENLARGED EIGHT TIMES).

THE WINGED OR ADULT PSYLLA (ENLARGED TEN TIMES).

SPURRED SHOOT OF APPLE TREE IN WINTER, SHOWING ATTACHED EGGS OF PSYLLA.

Treatment of Trees to Prevent Attack.—The aim of the fruit-grower in his treatment of trees attacked by Psylla must be mainly, if not entirely, directed to prevention of entry to the bud, for the reason that once the larvæ gain an entrance, there is considerably less chance of arresting the damage or otherwise effecting a cure. Attempts should, therefore, be made to destroy the eggs, or to at least prevent the escape of the young larvæ from the shells. There is a real difficulty, however, in this. The shells that serve as a protection to the otherwise exposed ova are of a peculiar horny nature, and only a strongly corrosive wash can penetrate them; and a solution of sufficiently effective strength is just as likely to damage the tissues of the tree as to destroy the eggs. There seem to be good grounds for the belief that the method originally advocated by Mr. Hammond (whose extensive Essex experience as a fruit-grower is well known) is the best course to take in grappling with the difficulty. Mr. Hammond's wash was a solution of a mixture of quicklime and salt, made as follows: Slake half a hundred-weight of *freshly-burnt* lime in a small quantity of water. Then add it to 100 gallons of water. Stir well and strain off to separate all particles of grit. To this thick lime-wash add 30lb. of dissolved salt and thoroughly mix. Theobald recommends the addition of from 2lb. to 5lb. of water-glass to this solution, explaining that by so doing the adhesive power of the wash is usefully increased. In spraying, the object in view is to thoroughly cover the eggs with a lime-salt paste, and so increase the difficulty of the newly-hatched larvæ to escape. A special nozzle is almost essential in spraying this rather thick fluid, as clogging is frequent during the operation. The special form of nozzle known as the "Seneca" has been recommended, as it is provided with an arrangement for rapidly clearing the aperture without unscrewing the nozzle; but other types to meet such cases are now on the market.

This is the principal method of prevention, but there are others that may be adopted as supplementary in severe cases. For example, Mr. Pickering recommends that the above work might be usefully followed by spraying with a decoction of Tobacco at the time of the bursting of the buds. The object of this particular spray is to kill any larvæ that succeeded in escaping, before they have time to reach the young flowers. This, if successful, will save the fruit. The strength of decoction suggested is that of two parts of strong Tobacco in a hundred parts of water. Suitable nicotine washes for the purpose can, however, be readily obtained from reputable vendors of insecticides. It will be safest and best for amateur fruit-growers to take this latter course. Collinge strongly recommends spraying the trees with a paraffin emulsion in the autumn, when the winged females are hovering among the branches and

SHOOTS OF APPLE TREE IN SPRING WITH NEWLY-HATCHED-OUT LARVÆ OF PSYLLA WAITING FOR BUDS TO OPEN.

engaged in egg-laying, and in large orchards the practice has much to commend it. An attempt at the eradication of this ruthless enemy of Apples is a work that ought to be at once undertaken through the co-operation of all gardeners and fruit-growers in the country. Unlike most other members of the aphis family, its only known food plant is the Apple. This fact gives an enormous initial advantage to the exterminator. Keep the insects off the Apple trees in a sufficiently wide area, and they will become extinct by starvation in a generation or two within that area. The difficulty, of course, in all such troubles is to secure effective simultaneous action. D. Houston.

[The illustrations used in connection with the foregoing article are after Theobald, from blocks kindly lent to us by *Irish Gardening*.]

THE FLOWER GARDEN.

LILIUM GIGANTEUM IN CORNWALL.

The accompanying illustration represents the best bed of this noble Lily that we have ever seen. Good individual plants are not uncommon, but it is seldom that a whole colony can be induced to flower at one time. The illustration is from a photograph kindly sent us by Major G. T. Williams of Manor House, Burton Joyce, Nottingham, and the plants were grown in his garden at Tredrea, Perranwell, Cornwall, in 1911, which was his home at that time. Major Williams informs us that there were twenty-three stems bearing flowers in the bed at the time the photograph was taken. We are much indebted to him for allowing us the opportunity of recording and illustrating such a beautiful bed. We hope other readers who may have interesting photographs will follow his example. By so doing a permanent record is made of many beautiful plants that would otherwise be unnoticed by the majority of flower-lovers.

A BEAUTIFUL BED OF LILIUM GIGANTEUM IN A CORNISH GARDEN.

SWEET PEA NOTES.

A question which is perplexing many lovers of Sweet Peas is whether or not their favourites are losing ground in general esteem. The streak disease has been so prevalent and so widespread that many people are becoming disheartened, and it will not need many additional failures to cause them to exclude the plant from their gardens, as far as the production of exhibition blooms is concerned. Happily, when plants are grown to yield blossoms for cutting, the plants do not suffer to nearly the same degree as those more highly cultivated with a view to big blooms on long stems, while the old-fashioned, smooth varieties certainly appear to enjoy immunity in large measure, presumably because they are of stronger constitution.

A further fault that tells against the modern race is the lack of perfume; but perhaps some raisers will spare time from their Mendelian studies to remember the old fragrance which was so penetrating and yet so delightful, and will endeavour to find us fresh colours in which it is present in full measure. Given this and healthy plants, the Sweet Pea can never die.

This is the great month for outdoor sowing, and notwithstanding the thousands of seeds sown indoors in the autumn and spring, far larger quantities are sown out of doors in March and April. Endeavours have been made to persuade growers that success is only possible when sowing under glass is done, but this is absurd. Until recent years the seeds were wholly sown where the plants were to flower, and, when the space in and between the lines was abundant, many thousands of superb flowers on splendid stems were produced; and if they were not as big as those seen at present-day shows, they were unsurpassable for the decoration of the house and garden. Amateurs who love Sweet Peas must not have the slightest hesitation about sowing in the garden. If the soil has been thoroughly prepared in advance, the seeds are thinly sown in suitable drills and the plants are correctly managed throughout, there is no doubt that the results will be sufficiently good to admirably repay the efforts made.

If the chosen position has not been dug since it was originally prepared and manured, forking over to a depth of 10 inches or so must be done at once, as time for settlement must elapse before the seeds can be satisfactorily sown. Where it has been impossible to dig and manure the ground earlier, do the work instantly, and tread sandy soils hard down prior to seed distribution. In all instances where flowers for the home are wanted, it is unwise to use natural manure to excess, as infinitely superior results follow upon moderate dressings, with supplements of one of the several valuable concentrated foods offered by advertisers in the pages of The Garden. If the plants are to be grown in rows, a distance of not less than 6 feet should separate them.

For the reception of the seeds, shallow drills should be cut, and the base ought to be made firm and level. As a rule, a depth of 2 inches suffices; but in light soils a little deeper may be wise, while in heavy land rather less is to be preferred. The seeds must be set 3 inches apart, and later, when the seedlings are through, thinning should commence and continue until the plants are 6 inches or 9 inches asunder.

It is wise to provide protection against birds, and there are excellent devices on the market, or guards of wood and string can be made at home. Slugs, too, will demand a toll unless they are kept in check, and for the purpose frequent dustings with either old soot or lime are reliable; but the frequency of dressing must be allowed to vary with the weather, more applications being wanted in wet than in dry weather. Constant pricking over of the surface is also most advantageous in checking the ravages of the slimy foe. Twiggy sticks must be put to the plants before they are 3 inches in height to prevent the possibility of falling over. J. R.

A BOLD PLANT FOR THE WATER-SIDE.

(Senecio Clivorum.)

Of the numerous plants introduced from China within the last decade or so, it is questionable whether any one of them is more firmly established in the gardens of this country than Senecio Clivorum. It is a large, coarse-growing subject, and unless given ample room is calculated to smother surrounding vegetation, and for this reason it is not a desirable plant for the herbaceous border. But for planting in bold groups in a fairly open woodland, wild garden, or, better still, by the water-side, it is quite well adapted. In the illustration on page 123 it is seen in association with the large-leaved Gunnera manicata, growing by the lakeside in Gunnersbury House Gardens, and this is a congenial home for both of these robust plants. Senecio Clivorum has roundly peltate leaves 2 feet or more in diameter, the branching inflorescence attaining some 4 feet or 5 feet high. The flower-heads are numerous and large, the colour being rich orange. The plant is quick to develop, quite hardy, and of striking appearance when in flower. It is interesting to note that it belongs to a vast genus—probably the most extensive in the vegetable kingdom.

THE ROSE GARDEN.

SOME UNCOMMON ROSES.

THE many interesting notes that are written about the newer varieties prompts me to write a few lines about those that are now all too little grown in the rush for the more modern sorts. Many of the older varieties have much to recommend them if they are given even moderately good treatment. For covering walls, those I name are really useful. I do not claim for them that they are perpetual flowering. From my knowledge of the newer varieties, some of which are claimed to be continuous flowering, I cannot yet see that any appreciable advance has been made in that direction. Flower of Fairfield is said to be an improvement on the older Crimson Rambler, from which it is a seedling, but I am afraid the continuity of flower only extends to a few straggling late shoots that develop flowers in due course.

Gloire de Dijon is certainly perpetual flowering as new growth is made, but even this old favourite cannot be termed a really good Rose for covering a wall, as it has such a habit of becoming bare at the base, also for a considerable way up the wall.

Reve d'Or was introduced by Pernet-Ducher in 1869, belonging to the Noisette class, and for a south wall it would be difficult to find a better variety. In growth it is vigorous, producing a huge crop of deep yellow blossoms which contrast well with the dark-coloured foliage. Where so many err in the cultivation of this Rose is in not pruning it correctly. Many persons leave the whole of the last season's growth to flower, and although a quantity of blooms are produced in this manner, they are ill-shapen and poor in colour; the spring growth does not appear to be vigorous enough to develop the flowers perfectly. The correct method of pruning when the wall is covered with main branches is that all subsequent shoots should be closely spurred in yearly, and from the new growth will come the much-prized blooms in quantity and quality.

Cloth of Gold (Coquerean, 1843) is another variety almost lost sight of, and although this does not flower so abundantly as the former, the individual quality is so extremely fine that one does not notice the lack of quantity.

Celine Forestier (Leroy, 1858) on a south wall is a charming Rose, the pale yellow blossoms being almost extravagantly produced in clusters.

Lamarque (Maréchal, 1830) is one of the oldest Roses we have belonging to the Noisette class, and for freedom of flower it would be difficult to find a superior. Out of doors the colour is very pale lemon; under glass, pure white. In growth it is rampant, but the more the vigour the greater quantity of flowers produced, and well into the autumn, too. A system of close annual pruning is desirable. This is a Rose that succeeds on its own roots.

Aimee Vibert (Vibert, 1828) is an almost evergreen variety, quickly making a thick wall covering and producing its pure white, sweetly-scented flowers in huge quantities.

Ards Rover (A. Dickson, 1898) is a much better climber than many persons seem to think, as it is so seldom seen in this form of growth. The late Mr. Flight of Twyford, Winchester, who was an ardent rosarian, knew the virtue of this Rose as a wall plant, and by closely spurring it in yearly he had an abundant flower crop annually. For richness of perfume and brilliant colouring this is a charming Rose.

Bouquet d'Or (Pernet-Ducher, 1872) is an improvement on Gloire de Dijon, in that its flowers are more freely produced and individually of better quality, with a little more copper colour in the centre.

Reine Marie Henriette (Levett, 1873), commonly known as the Red Gloire, is deserving of attention where an early bit of bright wall colouring is required, as this Rose gives its cherry red flowers abundantly. Prune closely.

Isabella Sprunt (Verschaffelt, 1867) will grow 20 feet high and annually give a huge crop of its lemon yellow flowers, which continue in a lessened manner throughout the summer and autumn.

Sinica Anemone is worthy of a place on a south or west wall, where its large silvery pink, single flowers are produced freely, and which contrast so well with the darkly-tinted foliage.

Belle Vichysoise produces its violet pink flowers in clusters early in the season and again in September, when it is most valuable on that account.

Marechal Niel I hardly care to mention, as it seems to have almost dropped out of cultivation as an outdoor variety. Anyhow, given a south wall and liberal treatment to plants worked on the ordinary Briar, magnificent blooms can be obtained, also a wealth of foliage.

I have left the Banksian type till the last, but cannot exclude them, although they have one serious fault—want of continuity. It is surprising how long an established plant on a south or east wall will continue to give huge crops of flower. I know of one of the yellow type, over seventy years old with a huge stem, which even now gives its annual quota of flowers.

Swanmore. E. Molyneux.

SENECIO CLIVORUM EFFECTIVELY GROUPED BY THE WATERSIDE AT GUNNERSBURY HOUSE, ACTON.

THE CABBAGE ROSE.

What a name to bestow upon such a fragrant Rose! Why Cabbage? Its appellation is generally accepted as derivative from "Cabuche" or "Cabus," which are the Cabbages and Cabbage Lettuces of France. Of course, it is generally known that the Cabbage Rose belongs to Rosa centifolia, but where it originated is not definitely known. Some authorities say one thing, others another. It is rather remarkable that hybridisers have not taken this tribe in hand more, because undoubtedly it is very amenable to cross-fertilisation. It is very sportive, one lovely variety, the Crested Provence, having originated as a sport from the Cabbage Provence, and first noticed on the walls of a convent in Switzerland. I have heard of plants of the Cabbage Rose known to have been in one family for eighty years. Others have related how, on transplanting rooted cuttings from one garden, the plants have sported and produced single blooms.

The Moss Rose is generally believed to have sported from the Provence Rose, and was first introduced from Holland to England some 300 years ago. Now in the Mosses there is a far larger variety than in the Cabbage or Provence Roses. I am certain one could evolve a very fragrant group of Roses from both of these tribes, and I should say it is worth while. One of the sweetest Roses I know is Zenobia, a large-flowered Moss variety, but with very little of the mossy characteristic, and yet it is unmistakably a Moss. I value fragrance so much that I think I would rather have a fragrant

variety that flowered but once than a continuous bloomer that is scentless. That the Moss Rose is able to impart its mossy character is proved by the new hybrid with wichuraiana in the variety named Wichmoss; and now that raisers have made a start to use the tribe, let us hope we may soon have other beautiful hybrids from these groups. DANECROFT.

TREES AND SHRUBS.

THE DOUBLE-FLOWERED CHINESE CHERRY.

(CERASUS SERRULATA FLORE PLENO.)

THIS exceedingly ornamental tree is too well known to need description, for its profusion of double white flowers suffused with pink make it one of the greatest pleasures of the garden in April. The tree makes a fine head with its widely-spreading branches, and for this reason it is an admirable subject for planting as an isolated specimen on a lawn in such a position as that depicted in the accompanying illustration. Although the cutting of specimen trees is by no means recommended, yet this double-flowered Cherry is one of the most useful for room decoration, a few sprays, each wreathed with its little rosettes of flowers, having a most charming effect when arranged in large bowls or Japanese vases. Trees of this beautiful Cherry may still be planted, but the work should be completed at the earliest possible date.

A BEAUTIFUL SPRING-FLOWERING TREE: PRUNUS SERRULATA FLORE PLENO.

HYBRID TREES AND SHRUBS.

ALTHOUGH the hybridist has played such an important part in the horticultural world by the raising of new types, or the improvement of existing kinds, of fruits, vegetables and many of our showiest decorative plants, except in the case of a few genera very little work of a systematic character has been carried out in connection with trees and shrubs. Yet in the few instances where the hybridist has gone systematically to work, he has achieved results which are quite equal to those which have crowned his efforts in other directions. Moreover, the several natural hybrids which have occurred among woody plants rank so high in their respective groups that there would appear to be every encouragement offered to the person who takes up the hybridisation of trees and shrubs on an extensive scale.

Everyone is familiar with the gratifying results which have rewarded the efforts of the raisers of the garden Roses, Rhododendrons, Azaleas, Clematises and Syringas, and in a more modest way of the Diervillas, Philadelphuses, Magnolias and Deutzias; yet in each of these groups a great deal of work is still to be done. With the many new Rhododendrons which have appeared during recent years, particularly with those of a dwarf character, it is likely that quite new types could be raised, especially if such a showy and floriferous plant as R. racemosum were used as one parent. The large-flowered Chinese kinds, again, crossed with Himalayan or American species, or with existing hybrids, would probably produce really good varieties, while the several yellow-flowered kinds which are now obtainable are well worth using as parents in order to try to obtain a large-trussed, yellow-flowered evergreen.

Two or three species only have been used as parents among the Magnolias, yet there are many others which might be tried. M. stellata, for instance, offers decided possibilities, while the summer-flowering kinds also deserve attention. More will doubtless be done with the Diervillas yet, while the new genus Dipelta may possibly prove quite as amenable as the closely-allied Diervilla.

The few hybrid Brooms are showy enough and distinct enough to encourage the hybridist to further efforts, while the popularity and general usefulness of the hybrid Berberis stenophylla suggest the Barberries as a likely field for work. Within the last twenty years we have had ample proof of M. Lemoine's success with the two genera Philadelphus and Deutzia, while his garden Lilacs may be found by the dozen; but in each genus there is still considerable work to be done, for there are numerous species yet unworked which suggest themselves as likely parents.

There is already a number of hybrid Spiræas, but with such a one as S. arguta as an object-lesson the hybridist may well push the work further. Cotoneaster is an untouched genus, yet it appeals to one as a likely family to produce interesting results. With the exception of Hypericum moserianum, no hybrid Hypericums have appeared; yet, although the various species do not cross readily, they should be persevered with. The new kinds of Clematis, more particularly the varieties of C. montana, crossed with older kinds might be made the parents of a distinct race with the montana habit, while the beautiful C. Armandii is quite worth trying as a parent. Among hardy Heaths there is a floriferous hybrid, Erica Veitchii, raised between E. arborea and E. lusitanica; but what one would like to see would be the union of the tall-growing Southern European sorts with the hardier E. carnea. Whether these species are too widely separated to cross must be considered, but in hybridisation one must take chances and be prepared for a goodly percentage of failures.

Æsculus carnea, the red-flowered Horse Chestnut, is a worthy example of a large-growing tree of hybrid origin, and it is probable that others quite as beautiful could be raised in the same genus. The various hybrid Pyruses are showy enough to warrant further efforts among the species, while such a genus as Catalpa might furnish useful trees. It is only during a very hot summer, however, that the last-named genus would be likely to perfect seed. The few hybrid forest trees which have appeared are generally more vigorous than their respective types, and sylvicultural experts look forward to the time when hybrid trees may be grown as well as, and more rapidly than, species. Except with those subjects, such as Willows and Poplars, which may be raised from cuttings, the day seems far away when hybrid trees will be able to compete successfully with species for forest planting—not, at any rate, until types can be obtained which will breed true from seeds.

Altogether there would appear to be a remunerative future for anyone who takes up the hybridising of trees and shrubs in a systematic manner, although he must be prepared to wait several years before he can hope to see any return for his work. One thing is, however, highly essential to the success of such an undertaking; that is, that strict records are kept of all the work done, not only the actual crossing, but the sowing of the seeds, appearance of the plants, their behaviour in regard to growth and their time of flowering. W. D.

GARDENING FOR BEGINNERS.

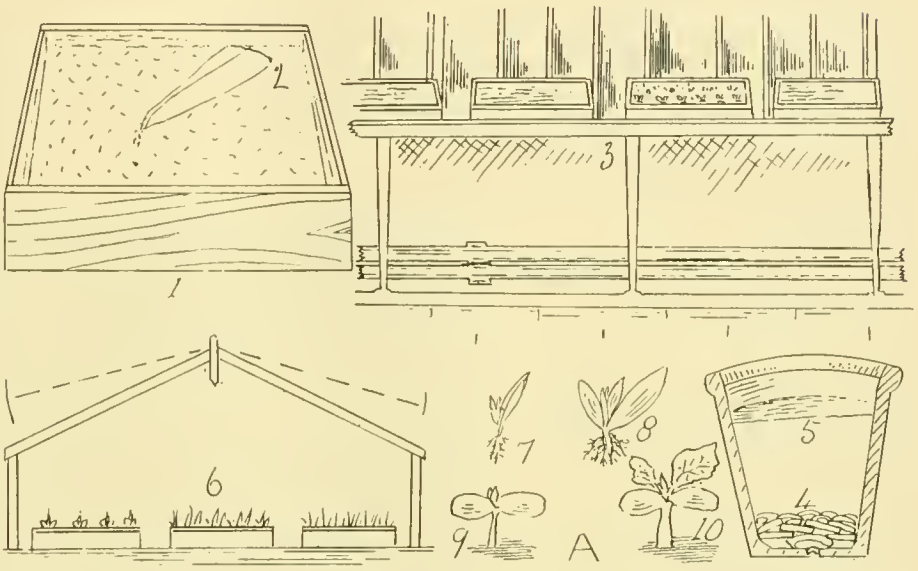
HOW TO RAISE ANNUALS.

WELL-GROWN annuals bear such a profusion of beautiful blossoms, and are so varied and rich in colours, that every year amateurs extend their cultivation considerably, and there are many additions to the ranks.

There are the half-hardy and the hardy annuals. The flowers of the latter are as beautiful as those of the former, but the half-hardy kinds and varieties must be raised under glass or given some temporary protection. Amateurs possessing every convenience as regards glass structures—especially in the form of heated frames—may sow seeds several weeks earlier than those persons who are obliged to depend on cold or temporary frames.

Raising Annuals Under Glass.—This may be done in pots, pans, boxes, or on the bed formed in a frame. The actual sowing of the seeds is best done in pots, pans, or boxes. Where great quantities are required, boxes may be used in which to sow the seeds, as the inexperienced cultivator is not so likely to sow them too thickly. It is, however, a good plan to prepare a number of pots, pans and boxes in good time, also the compost; then the work of actual sowing can be quickly done.

All seed receptacles must be clean, especially inside, and well drained. In springtime the sun-heat is strong and the soil dries up quickly on the surface. If the drainage is bad, then the soil will soon become sour through the frequent applications of water. The general compost for the seeds sown under glass should be made up of the following ingredients: Old fibrous loam passed through a half-inch sieve, sweet leaf-soil (both of the above in equal proportions), some rotted manure (1 peck to 6 pecks of the above), and coarse sand or road grit. This will do nicely.



HELPFUL ILLUSTRATIONS IN SEED-SOWING AND PRICKING-OFF ANNUALS. FOR FULL DETAILS SEE TEXT.

The larger seeds may be sown in the coarser compost, but for the very tiny ones the soil used may be again sifted. There is no difficulty experienced in sowing the larger seeds with the hand, but the finer ones may be sown as shown in Fig. A at No. 1. The seeds are placed in a "scoop" formed of half a sheet of note-paper, or even a smaller piece, as shown at No. 2. It is very easy then to distribute the small seeds thinly and evenly. Very tiny or dust-like seeds should be scattered on a white surface formed of sand; then the sower can readily see how thickly the seeds are dropping.

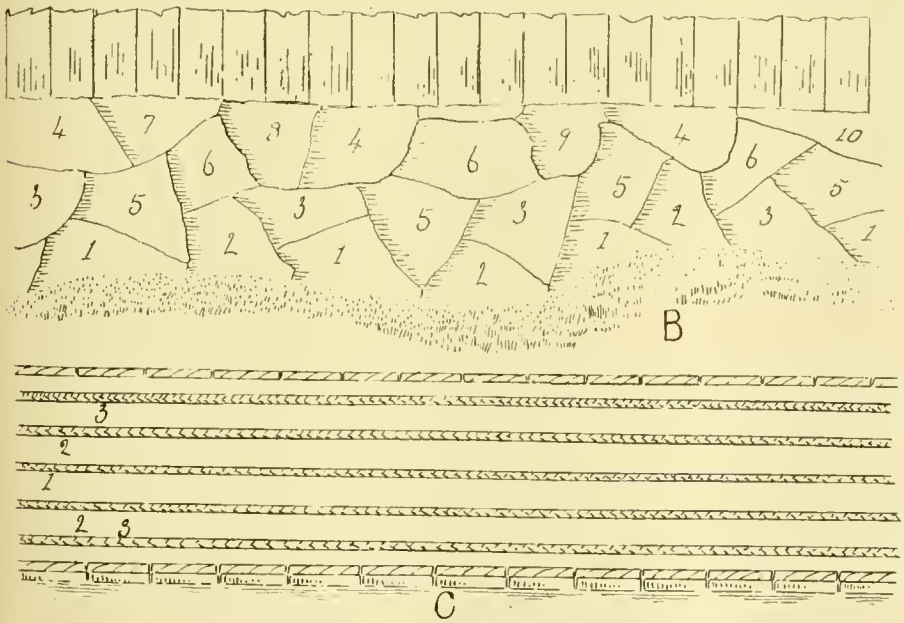
Favourite positions for seed-boxes are the front stages of greenhouses over the hot-water pipes, as shown at No. 3, or on the higher shelves. Over-dryness must be guarded against. When seeds are sown in pots, the latter should be well drained and not be more than three parts filled with compost, as shown at Nos. 4 and 5.

Harden, and even raise, many seedlings in cool frames, as shown at No. 6. No. 7 shows a seedling of Marguerite Carnation ready for the first transplanting, and No. 8 the same plant ready for a second transplanting. No. 9 shows a Helianthus seedling before being transplanted, and No. 10 the same plant seven days afterwards. These will act as guides for an inexperienced amateur as to how the young seedlings must be treated right from the beginning.

How to Raise Annuals in the Open Border.—These should be of the hardy kinds, or, if of half-hardy ones, very early sowing must be avoided. Prepare the soil by deeply digging it and putting in some rotted manure at the same time, and before sowing the seeds well break up the surface.

Whole Borders of Annuals.—Fig. B shows how to arrange annuals in a border near a fence. Nos. 1 1 1 1, Mignonette; Nos. 2 2 2, Godetias; Nos. 3 3 3 3, Stocks (some mixed colours, others distinct); Nos. 4 4 4, Sweet Peas; Nos. 5 5 5 5, Collinsia grandiflora; Nos. 6 6 6, Candytuft (some mixed, others distinct); No. 7, Coreopsis Burridgei (crimson and yellow); No. 8, Clarkia elegans Brilliant; No. 9, annual Chrysanthemums (mixed); No. 10, Lupinus roseus. Fig. C shows a long, narrow border, tile-edged, with the annuals grown in rows. No. 1, Stocks; Nos. 2 2, Asters (mixed colours); Nos. 3 3, Tom Thumb Nasturtium Beauty of Malvern (rich scarlet). Of course, other kinds may be used; this is simply an example given as a guide. The Nasturtiums are best in poor soil.

G. G.



HOW ANNUALS MAY BE ARRANGED IN NARROW BORDERS AND NEAR FENCES.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Lobelia cardinalis.—This showy subject should now be commencing to grow, and to secure good plants the old clumps should be pulled apart, placing one, two, or three shoots in a 3-inch pot. A little heat may be necessary to give them a start, but after they get nicely rooted they may again be returned to the cold frame.

Clematis Jackmanii should now be pruned hard back, and if the plants are in such a position that the roots are among or under other shrubs, a good dressing of well-rotted manure will help them considerably. Attention must be given the plants as they break into growth, tying up the young, tender shoots regularly, or many valuable flowers will be lost.

Lawns.—The unusually mild weather has been the cause of keeping the grass growing practically all the winter, and in sheltered positions it has attained a good length; but now that there should be no danger from severe frost, mowing must be commenced. Where very long, the scythe must be requisitioned; but where only of moderate length, a light machine, such as a "Pennsylvania," will be the best to use. Needless to say, a good sweeping and rolling a few days beforehand is necessary to get the lawn to look well after cutting, and I never think it wise to set the machine too low for a start.

The Rock Garden.

The various subjects in the rock garden are now growing apace, and the present is a good time for making up any deficiencies. Propagated plants of last season may now be planted out without any fear of injury from frost, as we ought not to get very severe frosts now.

Top-Dressing.—After a year's rain such as we have had, many of the niches, crevices and pockets in the rock garden will be the better for the addition of a little soil, after forking over the surface with a small hand-fork, good leaf-soil and fresh loam being probably the best dressing for most subjects, though in others a little peat or, maybe, limestone chippings will be found more suitable to the requirements of individual plants.

Plants Under Glass.

Cannas.—Stock plants of this useful greenhouse subject should now be shaken out, potting up the young rhizomes singly or two or three in a pot, according to requirements. For flowering on single stems in a 4½-inch or 6-inch pot, a 3-inch or 4-inch pot will be best for the present, while those intended for larger pots or for planting out may be potted two or three in a 6-inch pot. A fairly rich, open compost is best for them, and a brisk growing temperature will ensure them making roots quickly.

Freesias.—Where these are grown on from year to year, they should be given fairly liberal treatment. Now that they are all out of flower, they should be placed in a batch in a fairly cool house or frame and given liquid manure-water till growth is matured, when the manure-water may be gradually withheld as the foliage turns yellow, and the bulbs be given a good drying off in the sun before shaking them out of the soil.

Alocasias.—These are now breaking into leaf, and should be repotted before growth is very far advanced, or the plants will receive a check. Good fibrous loam, peat, charcoal, sphagnum moss and silver sand is a good compost for them. Where the rhizomes have attained any great length, the bottom may be removed, just keeping the crown well above the surface of the soil. The old stem, if cut up and placed in sand in the propagating-frame, will readily increase the stock. Plenty of heat and moisture are required for these plants, and the shady side of the stove will suit them best.

The Kitchen Garden.

Seakale.—The present is a very suitable time for planting the thongs that have been prepared beforehand and which may have already formed small shoots or growths; and to secure good forcing crowns for the autumn a well-cultivated and richly-manured piece of ground should be selected. Plenty of space should be allowed between the rows, and the sets placed from 9 inches to a foot in the rows. These should be well firmed by treading, keeping the crown of the thong (or cutting) just on a level with the surface of the soil.

Radishes.—Weekly sowings should now be made out of doors, at the same time making another sowing in the frame to keep up the supply till the outdoor ones come into use.

Potatoes.—Early varieties may now be planted on warm borders, but only where the soil is naturally light and dry. Tubers that have been started in boxes will naturally be selected for the purpose; but if the growths have attained any great length, they must be planted at a depth where they will not come through the soil too early.

Fruits Under Glass.

Early Vines. — Many of these will now be advanced enough for thinning. If a good set has been secured and there are more bunches than are required, they may be taken off before thinning is commenced, and thus save time and labour, though, where young hands are employed in thinning, it may be advisable to leave on more than is required, in case one or two happen to be spoilt. Generally speaking, early varieties of Grapes do not require quite so much thinning as do the later varieties, but to secure good berries a fair amount of space is required. Many bunches are spoilt by over-thinning of the shoulders, or top branches of the bunch, thereby losing weight as well as shapeliness of the bunches.

Feeding.—Immediately after thinning is an excellent time to give the Vines a good manuring, either in the form of liquid manure or artificial sprinkled on the surface and watered in, and at this time a good, quick-acting manure is far the best, as most growers will have dressed the borders either in the autumn or winter with the slower-acting phosphatic and potash manures.

Ventilating.—To take full advantage of all the sun-heat, great care must now be exercised, and though a temperature of from 60° to 65° may be sufficient if it has to be maintained by fire-heat, a very considerable increase may be allowed with the sun. THOMAS STEVENSON.

(Head-gardener to E. Mocatta, Esq.)

Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Border Carnations.—These may be planted as soon as the condition of the soil will permit. Taking it for granted that the ground was previously manured and deeply dug, it should now receive a dressing of soot and ground lime, and then be loosened and made fine with the digging-fork. Allow the soil a few days to settle, and then plant with a trowel about fourteen inches apart either way. Carnations are most effective when considerable masses of a variety are planted together. A dusting of soot when the foliage is damp will help to keep the sparrows at bay.

Iris reticulata.—This Iris is a gem, and as it is now in bloom, it suggests to one to advocate its cultivation on a more extensive scale. With bulbs at sixpence apiece and the certainty of their increasing rapidly, there is no reason why it should not be every man's flower. It is partial to a good supply of moisture if drainage is ample, and it likes a little peat.

Gladioli.—The finer named varieties of these may now be started in a greenhouse temperature, either in 4-inch pots or in boxes among some light, flaky material.

Tuberous Begonias.—These should now be started in a little heat. Place them in shallow boxes on a layer of flaky leaf-mould, and work in a little of the same material and sand between the tubers, leaving the crowns bare. Spray lightly daily to induce them to push, but beware of giving them too much moisture.

The Pleasure Grounds.

Trimming Edgings.—This work should be attended to before dry weather sets in. Prior to applying the edging-iron to the edgings of lawns and grass walks, the roller should be run along the edge of the lawn twice, and when edging no more should be pared away than is absolutely necessary to ensure a straight edge. Where curves have to be negotiated, see that the line describes a graceful sweep before commencing to cut. Where long, straight lines occur, the line should be pegged down at regular distances.

Pruning Ivy.—This is an ideal time to prune Ivy, just before active growth commences, as it then remains bare for the shortest possible period. Here we use a sharp hedge-bill for the operation, as by means of it the work can be done more expeditiously than with the pruning-shears; moreover, with this tool one can reach points difficult of access when the shears are used.

Plants Under Glass.

Rooted Cuttings.—Cuttings which were inserted a week or two ago will now be rooted, and should be potted off. Give a good watering when potted, but afterwards be sparing of water at the roots till growth again commences. Spray lightly in the afternoons and keep rather close for a time.

Gloxinias.—The main batch may now be started into active growth much in the same way as recommended for tuberous Begonias, but in a rather higher temperature.

Chrysanthemums.—Early-struck stock intended for the production of large blooms will now mostly be fit to shift into 5-inch pots, and the following mixture will be found suitable: Two parts of fibrous loam, one part of good leaf-mould, one part of dried horse-manure, with some sand, soot and bone-meal added. Keep the plants well up to the light in a cool house.

Fruits Under Glass.

Disbudding Peaches.—Some of the later houses will now require attention, and two general principles should be observed—remove buds occurring above and below the shoot for preference, and utilise the buds occurring near the base of the shoot as far as possible.

Potted Trees.—These, whether in an orchard-house or other structure, must be artificially pollinated as they come into flower. A fine feather brush or a rabbit's tail serves the purpose very well. The operation should be performed in the early forenoon. Maintain a rather dry atmosphere at this period and apply no stimulants till the fruit is set.

The Hardy Fruit Garden.

Fighting the Birds.—Bullfinches often do considerable damage to the buds of the Black Currant, and tomtits play havoc with the buds of the Gooseberry and Red Currant. A dusting of soot or slaked lime will generally ward off their attacks till the critical period is past.

Magpie Moth Caterpillar. — When the sawfly caterpillar appears, a dusting of Hellebore powder will annihilate the enemy. Not so with the pest under consideration. This too, however, can be exterminated, and that by spraying either with arsenate of copper at the rate of half an ounce to twelve gallons of water, or arsenate of lead at about eight times the strength indicated. Whichever is used, get it in paste form, and add some treacle to the mixture to make it adhere. Stir frequently during the process of spraying. If there is any suspicion of the presence of the pest, the bushes should be sprayed now.

The Vegetable Garden.

Planting Early Potatoes.—Tubers which were started in a little warmth may, if the weather is mild, be planted out at the foot of a south wall, and should be partly covered with some old potting soil in a rather dry condition. This batch will be of limited size, and will require to have protection afforded it should hard weather occur. The bulk of the early varieties should also be planted whenever the conditions of soil and weather will permit. A good tilth should be secured, and the drills be drawn 2 feet apart with the draw-hoe. A dusting of soot in the drills will be beneficial. Plant the sets about a foot apart. Midlothian Early and Duke of York are two excellent early varieties.

Parsnips may now be sown in ground that has been deeply trenched and has had no rank manure applied to it. Those who are to grow for exhibition would do well to pierce the ground deeply by means of a stout-pointed, round stake and mallet, filling up the holes with sifted rich soil. Sow a few seeds in each hole and thin out to one plant later. CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

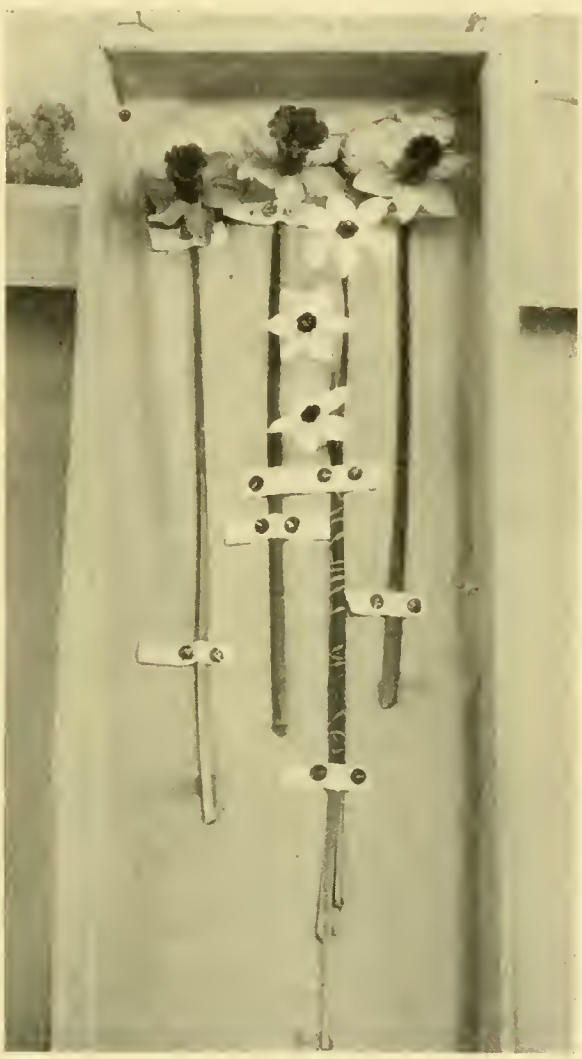
HINTS ON PACKING DAFFODILS FOR A SHOW.

BETWEEN the growing and the staging of our blooms there is a very important operation to be performed, viz., their transference from our own home to the venue of the show. I have been asked to give some hints as to the best way of packing the flowers for this journey.

One of my earliest recollections of Daffodil shows is the arrival of the late Mr. Bourne on the scene at Birmingham with an innumerable number of small boxes that might very well have contained chocolate creams or slabs of nougat, but which, as a matter of fact, were full of very carefully-laid-in Daffodil blooms. At that time my own flowers used to be brought in the more rough-and-tumble way of just bunching up the different kinds together and then crowding them into boxes *rather tightly*; much, in fact, in the same way as I would pack for market. This worked pretty well. The flowers were too close together to move, but when they were taken out they showed traces of their crushing, and it was long before they completely recovered. A few never did, although they were always some time in water before they were staged.

Material Required.—Nowadays I never pack like this. What I do I am about to explain step by step. The stock in trade from which I draw consists of (1) suitable-sized boxes made of quarter-inch light wood with the ends and bottoms of half an inch to give strength. They must be deep enough to take the longest trumpet. Width and length are more or less optional. A convenient size is: Depth, 4½ inches or 5 inches; length, 33 inches; and width, 12 inches; but in this matter everyone must please themselves, only let them be *deep and long* enough. All the boxes should be exactly the same size for the convenience of tying them together in twos or threes when travelling. (2) Half-inch common white tape; (3) small drawing-pins; (4) white tissue-paper; and (5) some raffia or other tying material.

The First Step is to give all our flowers a good drink. From ten to twelve hours is none too long. Then, before packing, they should be carefully drained and the ends wiped to avoid any liquid oozing out, as has happened to the long stem in the illustration. The box must be lined with paper, and enough left to fold over the flowers when the box is full. I secure the tissue-paper to the bottom by a pin in each corner. As a rule, every bloom is packed singly by securing its stem in two places (sometimes in three), as shown in the partly-filled box. Sometimes, however, it is best to tie three or four together, as is done with the "eyed" flowers. These are secured in a similar way to the bottom of the box. To steady individual flowers I frequently find it advisable to place cushions of crumpled tissue-paper behind them (see the right-hand flower, where such a pad can be plainly seen). These must be firmly pinned to prevent their working loose. The pieces of tape must be cut long enough to leave a free end to take hold of when the pinning process is completed. Unpacking is thus facilitated, as the pins can be drawn out without any breaking of finger nails, and in consequence, possibly, some not very polite language. The illustration shows only a partly-packed box; but both ends must be utilised for the blooms, leaving the centre for the stalks. With a little practice it is very surprising how many may be got into a box by carefully interlocking, as it were, one flower with another. Space is valuable, as obviously no one wants to take more boxes than are absolutely necessary. If the journey is a very long one, small sponges or wedges of damp brown paper may be introduced among the stems (of course, well secured) to keep the inside atmosphere moist and so preventing the perianths from flagging.



A USEFUL BOX PACKED WITH NARCISSI READY FOR TRAVELLING TO THE SHOW.

On Arrival at the Show it is hardly necessary to say that the boxes should be unpacked as soon as possible. If there is enough time, about a quarter of an inch of each stem should be cut off with a sharp knife before the blooms are put into water. This undoubtedly aids its absorption. An important adjunct to good flowers is having *plenty* of leaves. These, together with some nice fresh, green moss, should be in a box by themselves, I always take rather more than I think I will want. In the end I generally use all I have; one can hardly ever put too much foliage in the vases. On the other hand, it is an eyesore to come across blooms set up with too little. In conclusion, may I give this further piece of advice to those who are not adepts at taking flowers to show: Be sure to practise before the exhibition box is to be packed. The interlacing of the blooms into one another, no less than the firm pinning of the stems with the pieces of tape, requires a certain amount of familiarity with the process if it is to be done well.

JOSEPH JACOB.

WINTER FOLIAGE FOR CUTTING.

JUST now, when flowers are scarce, it may be of use to note some of the kinds of hardy greenery that are available for indoor decoration, with the addition of very few flowers, or even without any. I do not grow many shrubs with parti-coloured foliage, but should not like to be without a bush or two of the gold-variegated Elæagnus. Not only is it handsome in itself and highly becoming to any white or yellow flowers, but two or three short pieces of branch, from their extremely stiff and rigid character, make a convenient support for the flower-stems. It is also durable, lasting well for a fortnight or even three weeks. Every winter, just before Christmas, it comes into special use to accompany a few spikes of Cypripedium insigne. The gold-variegated Privet is another favourite and a good companion to the yellow Winter Jasmine. Another shrub with a golden effect, though not variegated, is Cassinia fulvida. The small leaves are dark green above and yellow underneath, but from the set of the branches, so much of the yellow shows that it has a general golden effect. As a garden shrub its defect is a weak habit, the long, yearly shoots hanging out in a way that makes a rather ragged-looking bush. A free cutting of these outer shoots not only provides greenery of a refined and unusual appearance, but helps to keep the shrub in better shape.

Alexandrian Laurel (Ruscus racemosus) is a slow-growing plant, but the owner of a few well-established tufts may well spare a frond or two for room ornament, and it lasts so long that the sacrifice is the less regrettable. In a room one can all the better admire its incomparable grace and structure. The same may be said of the Sweet Bay. It is a strange thing that one does not see a Bay tree in every garden. It may be a little too tender for our colder regions, but should be grown wherever the climate allows. As in the case of the Alexandrian Laurel, the beauty of form is an unending wonder and delight, and can best be appreciated when it is brought indoors.

Earlier in the year Ilex branches are beautiful with flowers, but by this time they are generally spotted and unfit for use. Skimmia japonica, and especially the wider-leaved forms oblata and

Foremanii, are among the best of winter greens for cutting. No leaves are so good for putting with Stephanotis, the twigs cut short and set in an open bowl. Stephanotis is not flowering yet, but Skimmia branches, in longer pieces, are admirable with Lent Hellebores, as the flowers, whose inclination is to hang their heads, can be brought up among the stiff, leathery leaves and made to show their inner beauties. But the Hellebores will not last well unless the precautions are taken of slitting up the stems so that they can drink their fill of water, and of putting them overnight in a deep pail or something that will give them a bath of several hours' duration with the water up to the actual bloom.

Two of the Andromedas, namely, Leucothoë Catesbæi and L. axillaris, have beautiful and long-enduring foliage for winter use; some of it green and some marbled and spotted with red; some even red all over. There is scarcely need to remind anyone of the use of Berberis Aquifolium, with its fine colourings of reddish bronze. The almost equally familiar Aucuba with the yellow-spotted leaves is not so often used indoors as it deserves.

G. Jekyll.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* Editor *of* The Garden, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

HERBACEOUS BORDER (*J. B.*).—A border of the width and length you describe would be better treated with two lines of groups, together with low-growing plants at the margin. The Privet, both in the matter of colour and the hungry nature of its ever-spreading roots, is, to some extent, a drawback, though the colour may be obliterated by planting green-leaved subjects—Galegas, Michaelmas Daisies, Delphiniums and other tall-growing subjects—in the background. In such a case, and more particularly if the Privet is inclined to colour much in summer-time, you should avoid planting white and yellow flowered things; good strong blues, violet, rose and mauve would be better. If the aim is to produce good effect quickly, you should plant three or five of every variety of plant to form a group, arranging the items a foot or more apart according to their habit and vigour of growth. For example, a back line of groups set at least 2½ feet from the hedge might be made up of Anchusa Dropmore variety, Aster Climax, A. William Marshall, A. cordifolius Ideal, A. Arcturus, Hollyhocks in rose, pink or red shades, Phlox Flambeau, Delphiniums Duke of Connaught, Carmen, Persimmon, King of Delphiniums, Amos Perry and Galega His Majesty. These would have to be distributed throughout the length of the border. In the second line of groups plant Phloxes Iris and Le Mahdi (blue shades), Mrs. E. H. Jenkins and Sylphide (white), Etna (crimson scarlet), Elizabeth Campbell (pink), Iris pallida, I. p. dalmatica, I. aurea, I. Queen of May, I. Gracchus, I. Mme. Chereau, Pyrethrums (single and double), hybrid Columbines, Delphinium Belladonna, Trollius napellifolius, I. Orange Globe, Rudbeckia Newmanii, Erigeron Quakeress, E. speciosus superbus and hybrid Pentstemons; while near the margin Phlox Tapis Blanc, Campanula carpatica, C. c. alba, C. c. Riverslea, Mossy Saxifrages, Aubrietias, Pinks and other plants of like stature might appear. We cannot enter into the question of cost; the plants enumerated would cost from 5s. to 10s. per dozen. Your better plan would be to invite prices from the hardy plant specialists who advertise in our columns. Prices vary, naturally, according to the size and quality of the goods supplied. You had better allow the Currant bushes to remain, as, in any case, the fruit crop this year from recently-planted trees would not be much.

PLANTING BEDS WITH PERENNIALS (*A. O. J.*).—The borders on each side of the gravel path, by reason of their varying widths, will require somewhat different treatment. You might, however, observe some degree of uniformity by planting a margin of white Pink or Dr. Mules Aubrietia, royal purple colour. Behind these for the larger border you might arrange Campanula Hostii, C. H. alba, C. glomerata dahurica, C. carpatica, C. c. alba, C. Riverslea, C. Hillside Gem, Helenium pumilum, H. p. magnificum, Heucheras in half-a-dozen sorts, Arenaria plantaginea rubra, Aster sub-cæruleus, Primula japonica, P. denticulata and Saxifraga cordifolia purpurea; in another row hybrid Columbines, single and double Pyrethrums in variety, Flag Irises in perhaps a dozen sorts, with Campanula persicifolia in blue and white, Helenium eupreum and the like. If a few taller plants were needed, you would obtain them in Michaelmas Daisies, herbaceous Phloxes, Delphiniums and Sunflowers. In the narrower border, apart from the margin, there would be room for two lines of plants, and you might for a start take half of the Campanulas named above and distribute them throughout the length of the border. By planting in the same line a variety of Pentstemons, great gaiety would be secured, and to these could be added Phlox canadensis, Trollius europæus and Aster acris nana, in the next line a selection of white, blue and salmon coloured herbaceous Phloxes, Iris pallida, I. p. dalmatica, I. aurea, I. Monnieri, Aquilegia chrysantha, Trollius Orange Globe, Delphinium Belladonna, Aster Amellus in variety, A. acris, A. ericoides, A. c. Desire and the like. In the lawn beds you had better rely on a few plants, Aster cordifolius Ideal and scarlet Pentstemons for the central bed, planting the other two with Lilium speciosum cruentum and white and pink Pentstemons. It is a little unfortunate that the beds are now occupied, as this will make the planting late. Had you arranged for planting in autumn, a variety of good garden Lilies and Daffodils might also have been included. If you have but little knowledge of the plants, some advice on the spot would appear necessary in order to secure an effective distribution of the plants.

TREES AND SHRUBS.

IS THUYA OCCIDENTALIS POISONOUS? (*G. B. M.*).—We have no evidence of Thuya occidentalis being poisonous to sheep or horses, and nothing to that effect is mentioned in any of the American publications we have seen. We think that if the tree were really poisonous, something to that effect would be mentioned in the botanical descriptions of the species. It has been in cultivation in this country since 1596; therefore there has been ample opportunity for such properties to have been noted, did it possess them.

PLANTING HEDGE NEAR A RIVER (*M. M. C.*).—It would certainly be unwise to plant a Yew hedge on ground that is subject to occasional flooding, for there would be little chance of the hedge succeeding. It is possible that Whitethorn might answer the purpose, but you would probably do better to plant common Alder, Alnus glutinosa. This does not mind the ground being wet, and may be kept fairly compact by strict attention to pruning. Be careful, however, to use plants which are bushy to the ground, otherwise the hedge will be gappy.

SHRUBS FOR A NORTH BORDER (*C. E. F. M.*).—The following shrubs are likely to thrive in the position you mention: Berberis Aquifolium, B. wallichianum, B. stenophylla, Ribes sanguineum, Forsythia suspensa, Spiræa arguta, Cotoneaster buxifolia, C. rotundifolia, any of the Privets, Aucuba japonica and Escallonia philippiana. It is rather doubtful whether a Fuchsia hedge would succeed in the position, but it is worth trying. Be careful to work the ground well before planting the shrubs, otherwise they will not start away well, and in such a position a good start is half the battle.

CLIMBERS FOR A HOUSE (*Mrs. M. S.*).—You cannot do better than plant Cratægus Pyracantha on the front of your house. It is evergreen, is easily kept within bounds by pruning, flowers well in May and bears showy orange scarlet fruits in autumn. It is not a self-clinger, but needs little nailing, the main branches only requiring support. Tropæolum speciosum may succeed with you if your soil is cool and moist, but it must not be placed in a position where it will feel the full force of the sun. A west or north-west aspect is considered a good one for it. We do not know whether plants take two years to flower if grown from seeds, but it is quite likely that they do.

DISEASED LEAVES OF CAMELLIA (*Rev. S. H. B.*).—The leaf sent for examination has been injured by a fungus, but the plant from which it was taken must be in a very poor condition if the leaf forwarded is typical of the others on the plant. We imagine that the plant has become weakened by being planted in unsuitable soil. Probably it is badly drained and sour. A little good could be done by removing and burning the worst of the leaves, at the same time cutting the branches moderately hard back and burning the prunings. Then spray the branches once a week for a month or so with Bordeaux mixture or some other fungicide. Syringe with clear water two or three times a day, and as soon as new shoots appear take the plants out of the old soil, remove all the soil, drain the border well with clean bricks and clinkers, and replant in equal parts of good fibrous loam and peat, with a fair addition of sand, bits of sandstone and pieces of charcoal. The replanting could probably be done about the middle of April. There is little doubt that root injury is the original source of the trouble. In the event of the roots being found to be very bad, it would be advisable to destroy the plant and start again with a new one.

DECAY IN OAK TREE (*O. M.*).—It is not possible to say from the piece of wood sent for examination what may be the cause of the decay of the Oak. The section received is typical of what is often noticed in decaying trunks and branches which have been injured by fungus. The insects present in the wood are only such as inhabit dead wood, and they are not responsible for the decay. Your best plan is to cut all dead branches clean away, making the cuts parallel with the trunk. Then, where decayed places occur, clear away as much decayed wood as possible and paint the surface over with a strong solution of carbolic acid. When that is dry, give all wounds a coat of coal-tar, and where there are any hollows, fill them with cement level with the bark. When the cement is dry, it may be painted with tar to make it less conspicuous. Any of the topmost branches which may be dead should be cut down about a foot below the dead joints, the wounds being tarred over as advised for the others. If the tree is fairly vigorous, a considerable amount of new wood will be formed in the course of the next few years.

PLANT FOR NAME AND TREATMENT (*H. C. N.*).—The specimen sent for identification is Acacia armata variety angustifolia. It may be grown in pots or in a border in a cold or cool greenhouse, and in Cornwall and other places where similar climatic conditions prevail it may be grown out of doors. A good compost may be prepared by mixing peat and loam in equal proportions, with one part in seven of silver sand. Pot firmly and stand the plants out of doors in June, letting them remain in a sunny position until September, then removing them to a light and airy greenhouse. Plants grown in indoor borders may be given the same kind of soil, but care must be taken to provide good drainage. When the plants are well rooted, give manure-water twice a week during the growing season, for the object in view is the formation of long, strong shoots which will produce flowers throughout almost the whole length, and the plants must be grown without a check to effect this. As soon as the flowers are over, cut the shoots well back, thinning out any weak or useless wood, and give a little more heat and a closer and moister atmosphere until growth recommences. Any repotting required may be done when the young shoots are half an inch or so long. Cuttings of young shoots, about four inches long, inserted in sandy soil in a close frame, may be rooted in a few weeks' time. The young plants must be stopped frequently to induce a stocky foundation, and, as a rule, they are better if not allowed to flower until they are a couple of years old.

THE GREENHOUSE.

DATES ON WHICH TO STOP CHRYSANTHEMUMS (*H. M.*).—Treat the varieties as follows: Countess of Granard, D. B. Crane, H. E. Converse, Lady Talbot and Lady Edward Letchworth stop about April 20 and take the first-crown buds that show in August. They will appear from the 10th to the 25th of that month. William Turner, Lady Francis Ryder, Thorp's Beauty and Mary Poulton stop about the middle of April and again in the middle of May, and take second-crown buds which will show during the latter part of August. F. Chandler and Hon. Mrs. Lopes should be stopped on April 20 and first crowns taken. The variety Mrs. Gilbert Drabble should be stopped during the last week in March and first-crown buds taken; these will not show too soon in the ordinary way. The other varieties, Mrs. A. T. Miller, Mrs. L. Thorn, White Queen and Francis Jolliffe, should be allowed to make natural breaks, and natural first crowns taken.

PERPETUAL-FLOWERING CARNATIONS (*W. D. S.*).—As your plants are in such good condition, we should certainly advise you to allow them to flower in the pots they are now growing in, as any disturbance at the present time would cause a severe check. Then, when the flowers are over, the plants may be shortened back, not cut down too hard, and after this operation, when the new growth commences to show, they may be repotted and grown on for another season. For the second year pots from 6 inches to 9 inches in diameter can be employed, the size depending upon the vigour of the specimens. These may be treated in the same way as you successfully followed in the past. If you like, you may plant them out in the border when the season is sufficiently advanced to admit of this being done; but this treatment is not invariably a success, some varieties being better suited to it than others. Taken altogether, we think you will derive greater pleasure from growing them a second year in pots than from planting them outdoors.

DIOSMA DYING (*Anxious*).—Judging by the specimen sent, your Diosma is too far gone to restore to health, whatever treatment you may give it. There is little doubt that it has been practically dying for a long time, and whatever is done now will only hasten the dissolution. In order to keep this Diosma in health, it needs a minimum winter temperature of 45°, rising 10° or so during the day. A free circulation of air, too, is very necessary to its well-doing. A compost of good peat and sand pressed down firmly will suit it well. You may, if you like, try to renovate your plant by syringing it with one of the several insecticides, say, prepared paraffin emulsion, or Fir tree oil, but be sure to keep well within the strength recommended by the vendor. Diosmas are increased by means of cuttings, put firmly into pots of very sandy peat, placed in the warmest and shadiest part of the greenhouse, and covered with a bell-glass. In order, however, to strike them successfully, good, healthy cuttings are absolutely necessary. After having disposed of the scale, you might, if you are inclined to try, cut it back; but, as above stated, we should not be very hopeful of the result. If cut back, it would be a help to bedew it over with the syringe two or three times a day.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

An Effective Floral Combination.—A few days ago we were much interested to see a large vase filled with Harbinger Wallflower and the scarlet Anemone fulgens. Without seeing it one might well imagine that such a combination would be far from pleasing, but we have seldom seen a better harmony of colours. The vase was seen in electric light, and the effect might not be quite so good under natural conditions.

Trimming Ivy on Walls.—We are often asked which is the best time of the year for cutting back Ivy on walls or fences, and for the benefit of those in doubt we may say that there is no better time than March for carrying out this work. By trimming Ivy at this time of the year, new leaves are quickly formed to take the place of those removed, whereas by trimming Ivy in the autumn, the walls or fences appear bare throughout the winter; and the great charm of Ivy is that it is the best evergreen climber for winter effect.

A Free-Flowering Heath.—Erica lusitanica, perhaps better known in gardens as E. codonodes, is one of the most accommodating Heaths for the garden. It succeeds in almost any soil, providing lime is not too abundant. This Heath attains a height of from 3 feet to 9 feet, and its small, bell-shaped flowers in white and pink are produced very freely indeed. Many gardens are now looking the brighter for this beautiful Heath. It is a native of Southern Europe, and is allied to E. arborea, which it resembles. It may be relied upon for flowering from the present time until midsummer.

A Useful British Saxifrage.—Of the number of alpines that flower in March, it is doubtful if any are more generally appreciated than the popular Saxifraga oppositifolia. It is everybody's plant, so easily is it grown in the rock garden. Its bright purple flowers are freely sprinkled over the creeping foliage. It is interesting to note that S. oppositifolia is a native of Britain, occurring wild in the mountains of Scotland. There are many beautiful forms in cultivation, such as maxima, splendidissima, alba, grandiflora and coccinea. This lovely native hybridises with S. biflora and gives S. Kochii.

Blue-Flowering Plant for the Conservatory. There is a handsome member of the Gentian family, known as Eustoma russellianum, that is an excellent subject for the conservatory. The usual flowering period is June and July, when the plants are covered with a profusion of large, cup-shaped, deep blue flowers from 4 inches to 5 inches across. Seed of this plant should be sown in pots or pans at the end of March on the surface of light soil and be placed on a little bottom-heat. Occasionally the plant is met with under the name of Lisianthus russellianus, but it is surprising that it is so little known. A native of Texas and Mexico, it was first introduced into this country in 1804.

The Water Lily Tulip.—There are few more pleasing flowers in the outdoor garden just now than this beautiful Tulip, known to botanists as Tulipa kaufmanniana. On a sunny day, when the flowers are fully expanded and their exquisite beauty fully revealed, they much resemble miniature Water Lilies. The creamy yellow colour, with rich yellow base, looks particularly fresh and spring-like, and it is difficult to understand why this Tulip is not more extensively planted. Possibly it is just a little too expensive and variable in its behaviour, but it is a gem among spring flowers.

How to Prune Buddleia variabilis.—The several varieties of this useful flowering shrub, notably veitchiana and magnifica, are now to be found in many gardens, but the correct method of pruning does not appear to be generally understood. The best plan is to cut them well back at the present time, removing at least two-thirds of the young wood that was formed last year, and which, in some instances, still carries the old flower-heads. This will induce vigorous growths that will flower well in late summer. After the pruning, a generous mulching with short manure should be given.

Giant-Flowered Asters. — The season for sowing seeds of Asters being at hand, attention may be drawn to a comparatively new and improved type of undoubted merit. In Sutton's Mammoth Aster we have one of the largest types of the Chinese Aster in cultivation. Growing 2½ feet to 3 feet in height, the large, bushy plants produce correspondingly large blooms, resembling the flowers of the Japanese Chrysanthemum. Borne on long, stiff stalks, the flowers are unsurpassed for vase decoration, and they are also of considerable value for borders. In addition to a wide range of colours from a mixed packet of seeds, six distinct shades of colour are offered separately, namely, dark blue, lavender, old rose, scarlet, shell pink, and white.

A Beautiful Golden Bell.—The superiority of Forsythia intermedia spectabilis over the ordinary intermedia is very marked, for the flowers are brighter coloured, rather larger and produced with greater freedom; therefore it should be selected in preference to the type when one sort only is required. The Forsythias, as a whole, are easily-managed shrubs, for, providing they are planted in moderately good, loamy soil, they give little trouble save for an occasional thinning, which should be done as soon as the flowers fade. They are also easily propagated, for cuttings of short young shoots inserted in sandy soil in a close frame in June root in from two to three weeks' time. An excellent way to use this and other Forsythias is to plant them in masses with a carpet of Chionodoxas or late-flowering Crocuses, for then the golden, bell-shaped flowers of the shrubs expand at the same time as those of the carpet plant below, and a charming effect is produced.

CORRESPONDENCE.

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

A Well-Flowered Cyclamen.—As a reader of The Garden I have been interested in recent notes on Cyclamen. Although I have none of venerable age, I enclose a photograph, taken about a month ago, of a two years old plant. When photographed it was carrying fifty expanded flowers, but since that time it has carried as many as seventy-two at one time. It is growing in a 7-inch pot. Plants twelve months old have been carrying thirty flowers.—R. T. Saunders, *Parkhenver Gardens, Redruth, Cornwall.* [The photograph sent by our correspondent showed a very good plant, but was, unfortunately, not quite suitable for reproduction.—Ed.]

SAXIFRAGA FALDONSIDE, A BEAUTIFUL YELLOW-FLOWERED VARIETY OF THE BOYDII SECTION. *(Slightly reduced.)*

Glory of the Snow (Chionodoxa sardensis).—The question is sometimes asked: "Which is the most effective of the Glories of the Snow for planting in grass?" For distant effect I have seen nothing to surpass Chionodoxa sardensis, which, though smaller in bloom and more drooping than the others, is self-coloured, or practically so, and gives a more telling appearance at a distance. It is generally free from the white eye of C. Luciliæ, C. Tmolusii and some others, but in a few cases C. sardensis has a white eye. It is an easily-cultivated species, but, like its sister flowers, appears to prefer deep planting, and if planted too shallow will in time gradually find its way more deeply into the ground. Some people are under the impression that it is called C. sardensis because it grows on the spot where stood the City of Sardis; but this is an error, as it was so named by Mr. E. Whittall, its finder, because the ruins of Sardis could be seen from the place where it was found.—S. Arnott.

The Fifty Best Alpines.—In The Garden of March 1, page 115, you have an article by Mr. S. Arnott on "The Fifty Best Alpines for Small Gardens." I consider there are a great many plants more worthy of a place in the first fifty. Where are the plants to supply bloom during the dull winter months and late autumn when our herbaceous borders are almost bare? Take, for instance, the pretty Ionopsidium acaule, Saxifraga Cymbalaria, in flower all the autumn and winter except when covered with snow. Cyclamen Coum and C. europæum between them supply bloom nearly all the year round, and C. repandum is superior to C. neapolitanum. Also Pulmonaria arvernense, backed up with Erica carnea, is lovely during February and March. What have Cypripedium spectabile and C. Calceolus done? They are no harder to manage than those two beautiful gems, Haberlea rhodopensis and Ramondia, of which R. pyrenaica is the best. There is also the lovely Cytisus kewensis var. heufellianus. Why not Arenaria montana grandiflora, also A. balearica to cover some of the boulders? Why miss Erinus alpinus and Saponaria ocymoides, Gentiana, at least acaulis; Phlox pilosa, much more free flowering than the setacea group; Phlox divaricata Laphamii, Primulas capitata and cashmeriana, Draba pyrenaica, Achillea umbellata, Anemone blanda, Aubrietia Fire King, Campanula G. F. Wilson, Dianthus alpinus and D. cæsius, both easier to grow than the varied forms of D. neglectus; Hutchinsia alpina, Lychnis alpina, and Saxifraga batboniensis as one of the Saxifragas?—G. F. Hyland, *The Gardens, Ashby St. Ledgers, Rugby.*

Mr. Lester Morse on Sweet Peas.—Americans are a strenuous and go-ahead race, and rarely do things by halves, and I have just received from Mr. Lester Morse a copy of his "Bulletin on Spencer Sweet Peas," in which these qualities are strikingly, even startlingly, exemplified. Mr. Morse has set to work with the very excellent motive of (*inter alia*) cutting down the list of names of the Spencer varieties; but I am disposed to think, and I feel that a good many others will agree with me, that the conclusions he arrives at are much too downright and sweeping. To give an instance or two: What keen expert will agree with Mr. Morse when he tells us that Margaret Madison and Walter P. Wright are practically identical with Seamew? What bold man will back him up when he classes Melba as "practically the same thing as Barbara"? Then he sums up Aurora Spencer as similar to Mrs. W. J. Unwin, *but larger.* This may be so, but it is not my experience, and, indeed, I think that Mrs. W. J. Unwin, shown as finely as it was at the National Show two years ago, was very nearly, if not quite, the largest flower in the show. The raisers of Sweet Peas are but human, and some of them will find their corns unmercifully trodden upon by Mr. Morse. He has discovered, for example, that Paradise is "precisely the same thing" as Countess Spencer, and that Evelyn Hemus and Mrs. Breadmore are "precisely the same thing." What, I wonder, will be said to this by a celebrated lady raiser. On the whole, I am disposed to think it is rather a good thing for Mr. Morse that a good broad strip of blue ocean separates him from the British raiser. With some of his conclusions, however, I am in eminent agreement, and the unstinted praise which he gives to Stirling Stent for its non-burning qualities is amply justified here.—F. Herbert Chapman.

Varieties of Saxifraga Boydii.—It is more than a little remarkable that while the merits of the original S. Boydii were recognised by a first-class certificate so long ago as March, 1891, the even more beautiful S. Faldonside only received recognition on the 4th of the present month, when a charmingly-flowered example was exhibited by Sir Everard Hambro, K.C.V.O., from his wonderful collection of these things at Hayes. The apparent omission may be due to a variety of causes, though chiefly, perhaps, because S. Faldonside has never before been presented to the floral committee under its correct name. The same variety has, however, been repeatedly exhibited in collections, though usually as S. Boydii, and the knowledge that the latter kind had already received the highest award of a first-class certificate precluded its being again presented. It is now many years ago since I first recognised the superiority of some forms of S. Boydii over others, both in the matter of outline, size of flower and colouring, and I concluded it was impossible that all could have been raised from one stock plant originally. This idea so grew upon me—it was patent almost to the ordinary observer of such things—that I presently communicated with Mr. Boyd, the brother of the raiser of the original plant, asking for information. To the direct question as to whether all the Boydii then existing were the outgrowth of a solitary individual, I received in effect this most useful informative reply. "The original Boydii first appeared as a solitary plant. Subsequently, however, seedlings were raised from it, and these, upon flowering, were considered, some sufficiently near to, and others so identical with, the original that all were distributed under the one name. Later developments, however, made it plain that some forms were vastly superior to others." Hence it is that in gardens to-day, and in those more particularly where the entire stock has been raised from a solitary plant, it might prove to be wholly Boydii or wholly Faldonside. The latter is a perfectly circular flower, the petals broad and overlapping without intervening spaces, the flower remaining slightly saucer-formed almost to the last. The clear yellow colour is enhanced by its sparkling effects. I regard this as the finest jewel in the Boydii crown. A good idea of its size and form may be had from the accompanying illustration. By some it is regarded as the best grower.—E. H. Jenkins.

Diascia Barberæ as a Perennial.—It was interesting to read in THE GARDEN for March 1, page 102, that others have found Diascia Barberæ to be a perennial. Here it has remained outside for several seasons; in fact, it seemed more at home without protection than with it. On the rockery it is a great feature, but I must confess that when grown as an annual it blooms more freely and gives finer flowers. I use it freely in place of Nemesia, as its flowering season lasts until late in the autumn. It may be mistaken for the latter at first sight.—M. NICHOLLS, *The Gardens, St. Clere, Kemsing, near Sevenoaks, Kent.*

The Valerian.—Your note *re* Valerian on page xxii. of March 1 issue is very interesting. There is no doubt that the Valerian (Centranthus ruber), commonly called "Pretty Betsy," is a sea-loving plant. Round here it grows freely on any old wall, and flourishes amazingly. Anyone who has seen the rocks at Barmouth covered with this plant must have been struck by the wonderful blaze of colour. I must say it is a handsome plant and a very telling colour.—J. S. HIGGINS, *Glynllivon Gardens, Carnarvon.*

Echium Wildpretii.—I see in THE GARDEN for February 22 a reply to "E. T. D." about an Echium. I have a seedling, raised from seed sent me from a plant of my own growing in Alassio, that is everybody's admiration. If it is the kind your correspondent wants, and he will send me his address, I will gladly give it him, or her, if the carriage is paid. My plant is of the clear blue kind, and bears huge spikes or clubs of flowers out there. I am not sure of the right name. It will not stand frost unless well covered, and plants bloom the second year from seed.—(Mrs.) GERTRUDE E. WEST, *Shide Villa, near Newport, Isle of Wight.*

Mysterious Disease of Hyacinths.—I am much interested in Mr. Pearson's article in THE GARDEN for February 22 *re* eelworms. My bulbs have been worried by them lately, especially last spring, and I thought it was my ignorance, as I had not had a greenhouse before. I had a collection of Lilies from Ant. Roozen given to me. For some time they did very well; then the buds began to dry up, and I found the roots were as described in the article referred to, and nearly all my bulbs are spoilt. But they were not content: they killed my Primulas, spread into other things—Sutherlandia and Arums—and ate up all my seeds. I tried everything I could think of to get rid of them, washing the bulbs and repotting in soil that had been dressed with Vaporite. I may say that I had no trouble until one Lily had some stable manure in the soil. I noticed every pot that was infested with eelworm had little black flies, with white bands on the body, dead on the soil. This year I have learnt that Oats suffer from a frit fly which produces eelworm. Is it possible that the eggs of the fly could have been in the Oats which came into the stables? I have only used artificial manure this year, and have, I hope, got rid of the eelworms. I had potted Hyacinths which I had last year, and had to burn them all.—B. HALL. [Mr. Pearson, in his article, did not attribute the trouble to eelworms, but to a fungoid disease.—ED.]

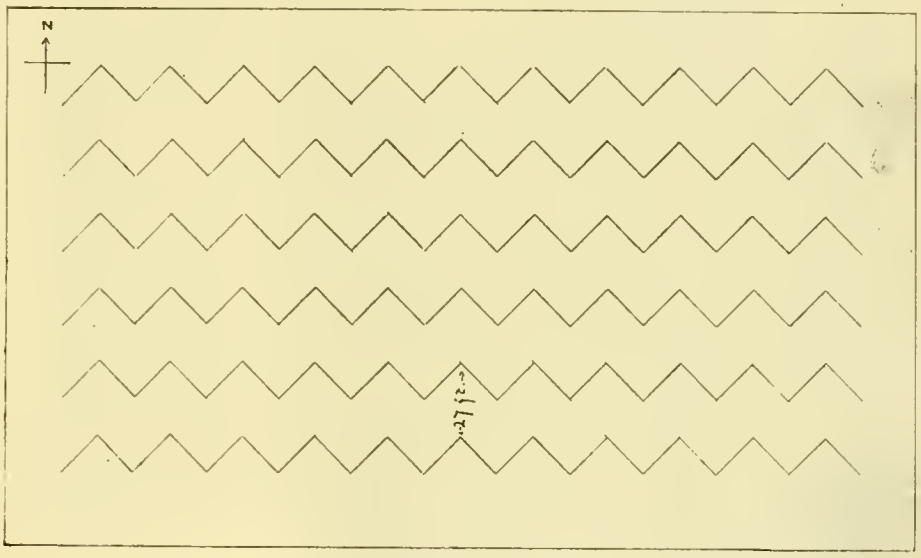
FORTHCOMING EVENTS.

March 18.—Royal Horticultural Society's Exhibition at Vincent Square, Westminster. Lecture at 3 p.m. by Mr. R. Lloyd Praeger, F.L.S., on "The Romance of Weeds."

A SIXTEENTH CENTURY VINEYARD AT HADHAM HALL, HERTFORD.

GARDENING has its antiquarian side, and I have lately found in the kitchen garden here something which may be of interest to those who care for the history of gardens. This house is an old one, built *circa* 1572 by Henry Capell, and was, in those days, all that a first-class English country house could be. For reasons which, to save your space, I do not here enter into, the Capell family left it in 1667, when most of it was pulled down, the little that was left becoming a farmhouse.

In 1901 it again became a residence, and, living here since that date, I have endeavoured to find out all that the house and garden were at their best. Partly guided by old pictures and partly by excavations, I have restored, on paper, the foundatains, terraces, pavilions and statues which went to make up a garden of that date. But besides all these, I have found one feature of special interest. I had to make a kitchen garden, and for the purpose chose a spot some 335 feet long by 200 feet wide, which offered the protection on the north and east of the old curtilage wall of 1572, which yet remained standing. Certain failures among young Apple trees led me to search at their roots for the reason, where I found foundations of brick walls some 2 feet down. These I followed up, and the plan, which represents what was found, will need but few words of explanation.



PLAN OF A SUPPOSED SIXTEENTH CENTURY VINEYARD AT HADHAM HALL, HERTS.

The oblong space, now the kitchen garden, runs east and west in its longer direction. Still bounded on the north and east by the old curtilage walls, similar, though no doubt lower, walls enclosed it on the south and west. Inside this enclosure, and running parallel with its longer axis, were six walls, built in zigzags, so as to form bays, of which there were eleven in each wall, making sixty-six in all. These six walls were equidistant throughout their length and 27 feet apart.

I can see but one possible explanation for such an arrangement, namely, that it was meant for a vineyard. We know that houses of this stamp, at that date, all had vineyards; but I have searched in vain in many gardening books of the period for any suggestion of this way of laying them out

And, yet, what could be better? Aspect due south, a protecting wall on all sides, those on the south and west kept, as we must think, low, the sun would strike directly into the bays of the six Vine walls, nor would the shade from these affect the wall behind if their height was limited to, say, 5 feet, which would amply suffice for a Vine. The Vines planted in the angles of the bays would not only catch the direct sun, but their branches, spreading right and left along the faces of the bays, would also gain somewhat of reverberated heat. Sheltered in the bays, moreover, the Vines would be well protected from the bite of any east or west wind which might strike into the enclosure. The spaces between the walls would, of course, have been available for ordinary garden purposes, while the reverse side of the walls could have served for Plums and Cherries.

Everything seems to point to the arrangement being intended for a vineyard, though, as I say, I can nowhere find any support for the theory. I should be deeply grateful to any of your readers who could, from a better knowledge of gardens of the sixteenth century, establish it as a fact. Once discovered, it seems strange that the idea has not survived; for, though we no longer grow Vines in the open, yet such an arrangement would surely be of advantage for our wall fruit. WILLIAM MINET.

Hadham Hall, Little Hadham, Hertfordshire.

[We shall be glad to receive brief comments on the interesting points raised by our correspondent.] —ED.]

A GOOD DRY-WEATHER PLANT.

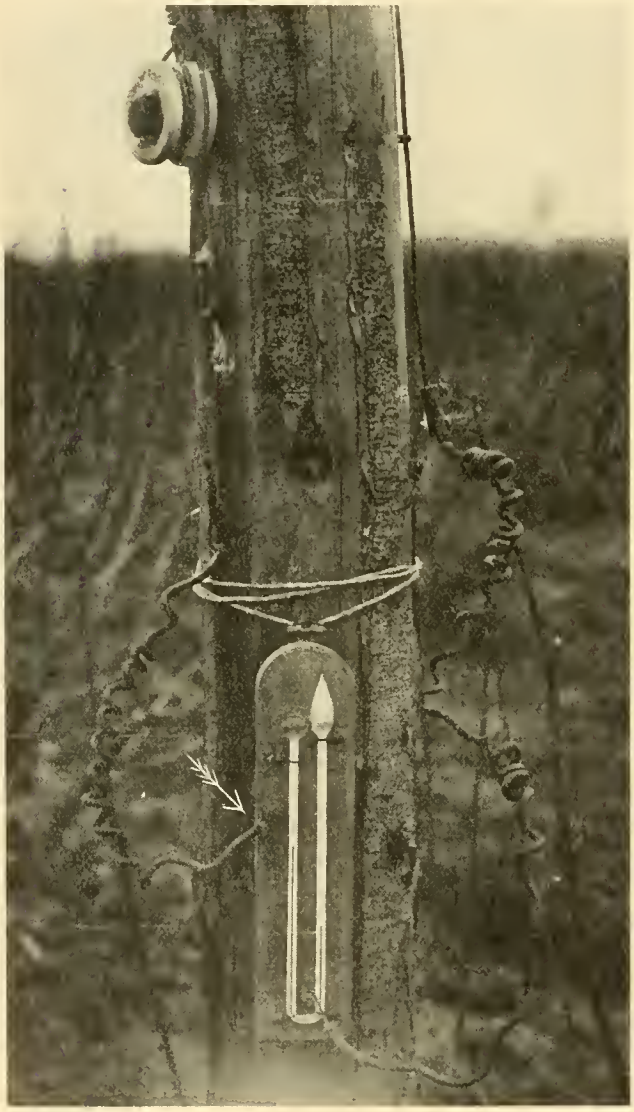
DURING the scorching days of summer, when the majority of the occupants of the herbaceous border are looking far from happy, it is always of interest and usefulness to note any that appear to revel in the brilliant sunshine and not to mind the drought One such is the Gaillardia, or Blanket Flower, the perennial sort that comes up year after year and gives us its charming flowers so profusely over so long a period.

FIGHTING SPRING FROSTS.

HOW TO PROTECT FRUIT BLOSSOM.

ALTHOUGH the protection of fruit blossom from late spring frosts by means of smudge fires has been extensively carried out for some years in California and other parts of America, there are but few places in this country where the method has been given a thorough and exhaustive trial. It has been contended in many directions that the climatic conditions here do not lend themselves to its successful adoption, and, further, that the protection is too expensive to make it worth while. The latter excuse can at the outset be dismissed, because if the use of smudge fires means the difference between a full crop of fruit and a very poor one, it will certainly pay for doing. The position of the grower is this: For a whole year he has tended his trees, cultivated and manured the soil, and gone to a great deal of expense in bringing the trees to as fruitful a condition as he knows how. Then one night's frost when the blossoms are open may mean the partial or total loss of this outlay of time and money, a loss that might, as we shall endeavour to show, be to a great extent obviated by the further outlay of a few pounds per acre in fighting the spring frosts.

One of the few places where smudge fires have been extensively and successfully used in this country is The Norrest, near Malvern in Worcestershire. Here Mr. F. Paget Norbury has an extensive fruit farm that is run on up-to-date and strictly commercial lines, and it is by his courtesy that we are able to place before our readers particulars of his efforts in combating spring frosts. Owing to curious climatic conditions that exist at The Norrest Farm, the fields occupied by Apples are not affected by these frosts; but in another direction the Black Currant plantations, of which we have never seen finer, are particularly susceptible to damage, and it is here that the smudge fires have been successfully utilised for the last six years. Believing as he does that if a thing is worth doing at all it is worth doing well, Mr. Norbury has had wires fixed on insulated poles from the field to his house, where they are connected to an electric alarm bell, the power for which is derived from an ordinary cell battery. On a post in the field a thermometer is fixed about three feet from the ground, as shown in Fig. 1. This thermometer is a maximum and minimum recorder, and at two places a thin platinum wire has been carried through the tube by the manufacturer. As will be seen by the arrow, one of these wires goes through the tube at 30° Fahr., or 2° of frost. To these platinum wires the transmitting wires are attached, and when the mercury reaches the 30° mark it effects the connection and the alarm is given in the bedroom. When this happens, Mr. Norbury promptly telephones to one of his men who lives close to the plantation, and he in turn arouses two more, who proceed with torches and light the smudge fires as quickly as possible. By the time the owner reaches the scene these are well on the way, and are kept burning until after sunrise. Just before sunrise dense smoke is created by adding fresh fuel so that the direct rays of the sun do not strike the flowers.



1.—THE MAXIMUM AND MINIMUM THERMOMETER, THE MERCURY OF WHICH MAKES A CONNECTION AND SO GIVES THE ALARM WHEN 2° OF FROST ARE REGISTERED. THE PLATINUM WIRE AT 30° FAHR. IS INDICATED BY THE ARROW.

The fires are made in pots designed by Mr. Norbury, in place of the funnel-shaped Colorado heaters, which are of flimsy construction. The outer construction of these is well shown in Fig. 2. These smudge pots are filled with straw, specially prepared chips and soft coal, so that a dense smoke and some considerable warmth are created when the fires are lighted. When the fruit blossom is about to open, these heaters are placed in position, and torches and additional fuel placed in readiness for immediate use. During a period of six years Mr. Norbury has found it necessary to light the fires about a dozen times, or an average of two nights each spring, sometimes for only a few hours per night.

2.—A "NORBURY" HEATER WITH COVER ON READY FOR USE.

It will, no doubt, be argued that such elaborate precautions are expensive and scarcely worth while; but the outlay, taking one year with another, is not excessive, and the saving in fruit very considerable. The cost of the Norbury heaters, such as we illustrate, and which are made locally under Mr. Norbury's supervision, is 2s. 6d. each, carriage paid, and forty-eight are required for each acre. Thus the initial outlay on pots is £6 per acre. But those illustrated have been in use six years, and will probably last another six, so that the cost per annum for these is about ten shillings per acre. Naturally, the cost of fuel will be rather a heavy item, but then it is only burned if absolutely necessary.

The thermometer illustrated cost 10s. 6d. and the installation of wires and bell was not a heavy item. From experience gained, Mr. Norbury does not think it necessary to have the thermometer fixed far away from the house, so long as it is in an exposed position and at the proper height from the ground. The temperature at the same altitude within a mile radius is not likely to vary more than 1° or 2°, and this, once local conditions had been fully studied and mastered, could be allowed for. Judging by what we saw at Mr. Norbury's farm and by what he told us, the protection of fruit blossom in this way might be successfully carried out in almost any part of the country. At the Worcestershire County Council's experimental gardens at Droitwich these heaters have been successfully employed by the superintendent, Mr. James Udale, for the protection of Apple blossom, and have proved far more economical and effective than the Colorado heaters.

THE HEATH GARDEN.

(*Continued from page* 120.)

JUNE is perhaps the month in which we find the smallest number of hardy Heaths in flower, that is, at the full expanse of their beauty, for those that were in full flower during April and May have by no means ceased to provide some colour effect in their respective beds, as the plants retain their flowers and colour, though somewhat faded, for a long time after they have lost their freshness. The later-flowering varieties, too, when only in bud provide a certain amount of colour as a promise of what may be enjoyed in the near future. The varieties, then, that we may expect to find in full flower in the month of June are restricted to two, so far as I can gather from my own observations. These are Erica australis and E. Stuartii, two plants with very different habits, the former being about three feet high, with flowers of a curious shade of colour, which, for want of a better description, I would call purplish red. E. Stuartii is a neat little plant about six inches high, with pretty, rose-coloured flowers, and forms a suitable subject for a comfortable pocket in the rock garden.

From July to September a very large number will be found in flower, and, as little difference can be noted as to their respective times for flowering, I give them in alphabetical order. E. Lawsonii, a neat-growing dwarf variety with flowers of a clear red shade, forms a suitable subject for edging. E. mackayana, a very pretty red variety growing about nine inches high, also a double-flowered form of the same, found in Connemara, give a pleasing variety among a class of plants represented principally by single flowers. E. mediterranea multiflora is the only one in the Mediterranean group that flowers in autumn, all the others flowering in spring. This is a distinct and striking variety, having white flowers with prominent chocolate-coloured anthers. A bed of smaller dimensions might be filled with the last three sorts mentioned, none of these being tall growers. E. m. multiflora should occupy the centre, with E. mackayana next, either in broad bands or suitable-sized patches, and E. Lawsonii near the margin.

The Cross-leaved Heath.—E. Tetralix is one of the most distinct of the whole genus, known as the Cross-leaved Heath. The whole plant when not in flower is of a greyish hue. Most of the varieties are about six inches high, a few attaining the height of 9 inches to 12 inches. E. Tetralix, pale red, also a white-flowered variety, alba, and another, alba major, having somewhat larger flowers, are similar in habit. Another white variety called molle has slightly shorter and denser flower-spikes, but otherwise similar to the former. Pallida resembles the last named except in colour, which is of a very light shade of red. E. T. præcox grows somewhat taller than any of the above-named, and has white flowers. All are, however, of neat habit, and suitable alike for the rock or Heath garden. The characteristic peculiarities of the foliage of this section are at all times striking and attractive. A new variety, a hybrid between E. Tetralix and E. ciliaris, and named E. T. Watsonii, is well worthy of being included in the list. The flowers are of a pretty rose pink colour. The plant is a free and vigorous grower, with attractive foliage.

The Cornish Heath (E. vagans) is perhaps the most vigorous of all the autumn-flowering Heaths, and although none of its varieties exceed 18 inches in height, they soon form large masses, and are therefore invaluable for planting in quantity either in the Heath garden proper or for clothing banks where the soil may be too poor for the free growth of shrubs. I have also used this extensively for edgings to walks, and if clipped immediately after it has passed out of flower, it will keep in good order for a number of years before it requires replanting. The type is represented by a plant of compact growth about twelve inches high, bearing flowers of a pale purplish red colour, freely produced on slender, wiry stems that are not easily damaged by rough usage. Alba (the white form), carnea (pink) and pallida (flesh-coloured) differ only in colour from the first named; but a variety called nana, possessing a dwarf and neat habit, not exceeding 6 inches in height, is quite distinct. E. v. rubra is the tallest of the group, attaining a height of 18 inches when in full growth, with flowers of a bright red colour.

E. Veitchii is a lovely white hybrid obtained from crossing E. arborea and E. codonodes. This novelty we have as yet only seen as pot specimens, but from its general appearance it gives promise of being a valuable addition to an already extensive collection.

Common Heather or Ling.—E. vulgaris (Calluna vulgaris), is too well known to need description, clothing our hills and moors, where during the autumn months it transforms the whole landscape into a rich purple mass, presenting a picture of rare beauty not easily forgotten, especially by those who view it for the first time on a bright autumn day on the slopes of the Grampians. There are numerous varieties of this popular Heath, some of which make excellent subjects for grouping in the grounds either in large masses of one colour or judiciously mixed in beds. The white varieties are in much demand, and must be a source of industry in some districts, judging from the quantities that are to be seen on sale as cut flowers.

White Heather for luck, besides being the badge of a Highland clan, is in much demand for wedding bouquets, and there are few sportsmen who will not sacrifice the chance of a good shot to stoop and pluck a sprig of white Heather when discovered amid a sea of the common purple variety. In the selection of the finest of a long list of varieties of E. vulgaris, we would give first place to E. v. Hammondii, closely followed by E. v. Alportii and E. v. Searlii, the former being a very free growing variety about eighteen inches high, with white flowers produced on fairly long spikes and forming a less compact but more graceful-looking bed than many of the others. E. v. Alportii is a very pretty dark red variety growing about one foot high, and where beds of mixed colours are favoured, this makes a fine companion for E. v. Hammondii.

E. v. Searlii is conspicuous even when not in flower owing to the mossy appearance of its foliage which is further enhanced on the appearance of the flowers, which are pure white, of fine form and substance. The whole plant does not exceed 12 inches in height. E. v. alba and E. v. alba minor partly convey in the names their general description. Argentea has beautiful silvery foliage, and aurea golden. On a first acquaintance with the last named one might be forgiven for

3.—ONE OF THE NORBURY HEATERS IN ACTION. NOTE THE DENSE CLOUD OF SMOKE THAT IS EMITTED.

assuming that the plant was in an unhealthy condition, the appearance from a little distance being a sickly yellow colour in the foliage. Cuprea possesses a distinct bronzy foliage, which is more pronounced in winter than in summer.

The variety flore pleno should not be omitted, as its double red flowers, having a silvery sheen, are very attractive. The plant is free-flowering, with a compact habit. A few other varieties of vulgaris worthy of mention are decumbens alba, tomentosa alba, hypnoides, pilosa, pygmea and rigida. These are of slow growth, and are better adapted for the rock garden than the Heath garden.

Glamis. T. Wilson.

(*To be continued.*)

TREES AND SHRUBS.

VERONICA HULKEANA IN IRELAND.

The owners of gardens in the Midlands and North of England cannot appreciate the value of the New Zealand shrubby Veronicas to the same extent as those people who have gardens in the South-West Counties, in South Wales, West of Scotland and in Ireland, for in those places shrubby Veronicas are looked upon as a necessity in every garden of any pretensions, while even in cottage gardens some of the stronger-growing kinds are used as hedges for dividing one garden from another. Species such as V. speciosa is met with as a bush 4 feet high and 6 feet through, covered in its proper season with upright spikes of lilac, purple, red, or white flowers, according to variety, while other kinds are quite as conspicuous. The accompanying illustration bears testimony to the decorative qualities of V. hulkeana, as it is grown in Sir Edward Verner's garden at Corke Abbey, Bray. One of the more delicate species, it is often grown in greenhouses as a pot plant, but in this beautiful Irish garden it succeeds quite well in the open. It is naturally of rather loose habit, with slender branches and broadly oval leaves less than an inch long. The flowers are lilac or pale mauve in colour, and are produced in very large terminal panicles, which are peculiarly graceful and pleasing. Under pot cultivation it gives the best results when raised from cuttings at least every second year, but when grown under more generous border conditions it continues to give good results for a number of years. D.

VERONICA HULKEANA IN SIR EDWARD VERNER'S GARDEN AT CORKE ABBEY, BRAY, IRELAND.

SOME GOOD AND INTERESTING SHRUBS: THE CEANOTHUSES.

Unfortunately, the Ceanothuses are not generally hardy, otherwise there is little doubt that they would find a place in every garden, for no shrubs are more floriferous, while many of them have the advantage of producing blue flowers, a colour which is not common among shrubs. In the milder parts of the British Isles, however, they may be grown to perfection, while in other places the hardier kinds can be grown against walls, though they may fall a prey to cold should a winter of moderate severity be experienced.

That the plants are quite worthy of wall space is evident by the illustration on page 135, which shows a section of a wall in Sir Edward Verner's garden at Corke Abbey, Bray, East Ireland. Sir Edward is a most enthusiastic gardener, and he takes a keen interest in decorative plants. In 1906 he decided to give up a considerable area of wall space to Ceanothuses, and in May of that year he planted six small plants of C. thyrsiflorus from pots in one position. That they have thriven remarkably well is evident from the photograph, which was taken during the flowering period six years later.

Fortunately, Ceanothuses are not very fastidious regarding soil, and providing the climate is right, they succeed quite well in any that is of a loamy nature. They may be increased by cuttings of half-ripe wood, inserted in sandy soil in a close frame indoors during the summer, and it is a good plan to root a few cuttings of each of the more tender kinds each year and keep them under cover for the winter in case of a mishap. Pruning requires to be carried out in two different ways, for there are two distinct groups of the genus which blossom at different times. Those which bloom in spring are the more tender, and are usually grown against walls. They require pruning as soon as the flowers are over, the pruning taking the form of cutting back any plants which appear to be outgrowing their positions and spurring the breast wood back to the main branches; but when the same plants are growing as bushes in the open, practically no pruning is necessary. The other group blossoms during the autumn, and it is usual to cut the various kinds back moderately hard during the winter or spring. These kinds are frequently planted in beds in conspicuous positions, while some of them are grown against pillars or walls.

All the cultivated species are natives of North America, the majority being found from Oregon to Southern California, others being met with throughout the Eastern United States, Florida and other parts. The best of the spring-flowering kinds are evergreen in character, whereas those which bloom in the autumn are deciduous or sub-evergreen. In the following notes attention is directed to the most suitable sorts for gardens.

Spring-Flowering Kinds.—C. cuneatus is a curious species with rather rigid branches bearing small leaves and whitish flowers. One of the hardier kinds, it may be expected to form a small bush in the open border about London. It is found from Oregon to South California. C. divaricatus is an excellent shrub for a wall, while it succeeds as a bush in the South of England. Of vigorous growth, it attains a height of quite 15 feet. The branches are somewhat spiny, and the small, oval leaves are bright and glossy. The blue flowers appear towards the end of May. C. integerrimus, like the last-named, is a Californian species, and is suitable for wall culture. Bearing thinner and duller leaves than the majority of the species, it also differs by its large heads of light lilac flowers. C. Fendleri has a rather extended distribution, for it occurs in Colorado, New Mexico and Arizona. It is of rather stiff, rigid growth, with somewhat spiny branches, and bears whitish flowers. C. papillosus may be readily distinguished by its long, narrow, viscid leaves, which are covered with small oil glands. The blue flowers are produced with great freedom in May. A native of California, it is one of the tenderer kinds. C. rigidus is certainly one of the most beautiful of all the species. Of vigorous habit, it grows quite 10 feet high, and is recognised by its stiff branches, small, deeply-cut leaves and rich deep blue or violet flowers, which commence to open in April. Found in California, it is sometimes grown as a bush in the milder parts of the British Isles, but is more at home when planted against a wall. C. thyrsiflorus, sometimes called the Californian Lilac, is one of the hardiest of the spring-flowering kinds. The popular C. veitchianus produces a profusion of showy blue flowers during May.

Late-Flowering Kinds.—Few species are to be found among the late summer and early autumn flowering sorts, but the deficiency is amply met by the many garden hybrids which have been raised. Some of these are decidedly superior to the types for ornamental planting, and flower continuously over a period of three months. The two most important species are C. americanus and C. azureus. The former is widely distributed through the Eastern United States, where it is known as the New Jersey Tea on account of its leaves sometimes being used as a substitute for Tea. It has whitish flowers and forms a bush

3 feet high. There are several varieties, of which nanus roseus, with rose-coloured flowers, and opacus are most distinct. C. azureus, on the other hand, forms a bush 3 feet to 4 feet high, with large terminal panicles of blue flowers. Two of the most showy garden varieties are grandiflorus and Gloire de Versailles, both of which are renowned for their fine inflorescences of bright blue flowers. Other good kinds are Ceres, rose; Albert Petit, rosy lilac; Brilliant, purplish; Cigale, lilac; Charles Détriché, blue; Esperanto, lilac; Felibre, mauve; George Simon, rosy lilac; Indigo, dark blue; La Condamine, mauve; Perle Rose, rose; and Rosamonde, blue.

FLOWER GARDEN.

RELIABLE LILIES FOR THE OUTDOOR GARDEN.

THE Lilies that so greatly adorn our gardens have a wide distribution, especially the great Martagon family, which is found in Southern Europe, in Asia, and America. Most of these are entirely reliable. Lilium Humboldtii, from far California, and L. szovitzianum, from the regions of Northern Persia and Mount Caucasus, are among the grandest of the Martagonian representatives. The latter is one of the most majestic Lilies in cultivation. I have had it occasionally in my garden approximating closely to a height of 9 feet, considerably higher, Sir Herbert Maxwell tells me, than it grows at beautiful Monreith, where "all sorts and conditions" of Lilies are assiduously and successfully cultivated.

Of the sub-genus Cardiocrinum, whose membership is somewhat limited, the most remarkable illustration is the great Himalayan L. giganteum, which may expressively be described as a "reliable" Lily, especially when planted in peaty soil, or in leaf-mould with a slight mulching of manure. Its perpetuation is for the most part accomplished through its offsets, of which the largest usually survives; but it takes at the lowest estimate at least four years to build up its magnificent flowering bulb. Sir Herbert Maxwell, who exhibits great patience and perseverance—splendid moral qualities for an earnest horticulturist—in the culture of this Lily, grows it from seed, which it generates in vast quantities. The foliage of L. giganteum is exquisitely heart-shaped, as luminous as that of the Laurel or the Holly, and is highly ornamental. There are several other Indian Lilies of distinctive beauty and characteristics, such as L. nepalense, L. neilgherrense, L. Lowii and L. wallichianum superbum (called by Mr. Baker of Kew "L. sulphureum"), which are only suitable for conservatory cultivation. L. candidum would undoubtedly be one of the most effective and richly-fragrant flowers for garden cultivation, were it not subject to the often fatal influences of an insidious disease. L. longiflorum, though extremely beautiful, especially in such fine varieties as Wilsonii and giganteum, is frequently not enduring, by reason chiefly of its productiveness in the direction of miniature offsets. L. Brownii L. Krameri and the Japanese L. rubellum do not, as a general rule, last very long. On the other hand, I have had L. Henryi, L. auratum platyphyllum, L. chalcedonicum and the exquisitely odorous L. speciosum flowering in the same positions for many years.

The longest-lived of all my Lilies, a magnificent auratum, was obtained from Messrs. James Carter and Co. fifteen years ago. I have only to add to these fragmentary observations that several of the Oriental Lilies which I have characterised as unreliable are quite "hardy" in the catalogues, but not elsewhere!

DAVID R. WILLIAMSON.

Manse of Kirkmaiden, Wigtownshire, Scotland.

CEANOTHUS THYRSIFLORUS AT CORKE ABBEY, BRAY. THERE ARE FOUR PLANTS, WHICH WERE PLANTED FROM SMALL POTS IN 1906.

COLOURED PLATE.

PLATE 1467.

MONTBRETIA STAR OF THE EAST.

THE year 1912 will long be regarded as a red-letter one in the annals of horticulture, and the Montbretia of which we present a coloured plate with this issue will long be regarded as an epoch-making one in the history of hardy flowers. When shown before the floral committee of the Royal Horticultural Society on August 13 of last year, this Montbretia was awarded a first-class certificate, a very high honour for a variety of any flower, yet it was an honour that was unanimously agreed upon by the members of the committee, and one that was fully deserved. We have only to compare this new-comer, with flowers nearly four and a-half inches in diameter, with the old Montbretias that still do duty in many good gardens to clearly see what a wonderful change has been brought about—a change that has been beneficial in every way, inasmuch as Montbretia Star of the East possesses a stronger constitution than the old types.

For this beautiful and useful flower, as well as for a number of other excellent Montbretias, we are indebted to Mr. G. Davison, head-gardener at Westwick, Norwich, a full description of the gardens there, with a portrait of Mr. Davison, being published in our issue dated November 30, 1912. These newer Montbretias have been put into commerce by Messrs. R. Wallace and Co. of Colchester, and among those of special merit, though not so large and brilliant as Star of the East, mention must be made of Prometheus, King Edmund, Lord Nelson, Lady Hamilton, Hereward and Norvic.

Happily, the cultivation of these useful and beautiful flowers does not call for any great amount of skill. Mr. Davison believes in selecting a rather cool position for them, but not one that is shaded by overhead trees. The soil should be well and deeply dug, and a good amount of leaf-soil added to it; and if clay naturally predominates, some coarse grit or other lightening material should be well mixed with the whole, a friable rooting medium that contains a good amount of humus or decaying vegetable matter being the ideal to aim at. Planting is best done in March, covering the corms or bulbous-looking roots with about two inches of soil. Bold groups towards the front of a mixed border, or lawn beds filled with them, are very effective during August, September and October, months when too many of our herbaceous plants are past their best. When the tops get blackened by frost, usually at the end of October, the roots should be lifted, the tops shortened to about six inches, and then stored in a cold frame where actual frost can be kept away. During fine days in winter the stored roots should have as free ventilation as possible.

SCIENCE IN RELATION TO HORTICULTURE.

SHORTENING THE REST PERIOD IN PLANTS.

Forcing by Anæsthetics.—Since the early experiments of Johannsen in 1898 on shortening the period of rest in plants, the practice of forcing bulbous plants or certain flowering shrubs by either the hot-water treatment or by etherisation has become quite familiar to gardeners. Perennial plants have an annual period of rest, and under natural conditions there is a certain normal length of time spent in this state. Johannsen's discovery was that this period could be shortened by subjecting the dormant plant to the influence of an ordinary gaseous anæsthetic, such as chloroform or ether. The vapour acted as a stimulating agent, producing immediate activity, and on condition that the artificially-awakened life was given a favouring temperature, the plant started growth "right away." In the case of bulbs and flowering shrubs, where the flower-buds are formed the previous season, blooms were obtained many weeks in advance of the untreated plants. It was afterwards found that immersion in hot water for a certain length of time produced the same effect.

Application to Strawberries.—Now Strawberries form their trusses of flowers and lay by a store of ready-made food in their stools during the previous season, so that very soon after the starting of growth in the spring the flowers push out; hence a Strawberry is one of our very earliest fruits. M. C. Bultel, a French grower, has for several years (since 1906, in fact) carried on forcing experiments with Strawberries, using etherisation as a means of raising very early crops of fruits. In one experiment, for example, a batch of 600 plants of the variety Vicomtesse Héricart de Thury was divided into two equal lots of 300. One lot was etherised and the other not, and both lots were treated in the way usual in ordinary forcing work. He reports that the treated plants were always superior to the untreated ones, that the etherised lot flowered, as a rule, so much earlier than the others that the fruits began to ripen about fourteen days in advance of the untreated lot. He adds that the method is certainly profitable in the commercial cultivation of the Strawberry.

The dose used was approximately 4oz. of ether vapour per 10 cubic feet of air in the enclosed chamber. The time of exposure was varied. In one experiment the plants were exposed to the influence of the ether for sixty hours, in another for forty-eight hours, and it is stated that it makes very little difference which is adopted. The longer time seemed to give only slightly better results. It will, of course, be understood that advantage from etherisation can only be obtained by submitting the plants to the stimulus when they are in a complete state of rest. If the operation is delayed until the stools are ready to start growth, it is obvious that no advantage will be gained by etherisation.

Radium Treatment.—As a matter of interest in connection with this subject, it may be noted that a German experimenter (H. Molisch) has been testing the influence of radio-activity upon the rest period of certain plants. In his first experiments he used not the radium itself, but radium preparations (being much cheaper), and found that exposure to radio-active substances acted as a stimulus exactly in the same way as ether, namely, it shortened the period of rest and induced an early opening of the flower-buds. The subject used was Syringa vulgaris, or common Lilac. The time of year was the end of November or the beginning of December, and the treatment lasted for two days. In later experiments he used radium itself, and with better results. It acted well with Horse Chestnut, not so well with Acer platanoides, and not at all with common Beech; but then the latter, as is well known, does not respond to etherisation. At present this method is far too expensive, commercially speaking, to be of practical utility; but, as has been said, it is interesting, especially as radium emanations exert an entirely different influence upon actively-growing plants than they do in the case of plants during their resting period, as Molisch proposes presently to show.

As an illustration of the possible utility of radio-active substances upon plant growth, reference may be made to Ewart and Nightingall's experiments in Victoria. These experimenters used finely-crushed radio-active minerals, which they mixed with soil, in which they raised crops of Wheat with the object of testing the effect of radio-activity upon growth. The results are hardly conclusive enough to establish any theory, but one notable result came out in the experiment. In cases where the seeds actually touched particles of the radio-active mineral, the greatest increase of yield was obtained.

D. Houston.

Royal College of Science for Ireland.

A RARE AND BEAUTIFUL RHODODENDRON (R. SCHLIPPENBACHII) NOW FLOWERING IN THE TEMPERATE HOUSE AT KEW.

THE GREENHOUSE.

A RARE AND BEAUTIFUL RHODODENDRON.

(R. Schlippenbachii.)

THIS species is undoubtedly one of the most beautiful of the Azalea section of the genus, but, except in the warmer parts of the British Isles, it cannot be regarded as hardy. It may, however, be grown successfully in pots, and will prove quite an acquisition in the conservatory during the early spring months. Although described by Maximowicz in 1863, it does not appear to have been in cultivation in this country for many years afterwards, but a plant shown by Messrs. J. Veitch and Sons was awarded a first-class certificate in March, 1894. R. Schlippenbachii forms a deciduous shrub from 3 feet to 5 feet high. The flowers, which are produced in loose umbels, are about three inches across, of a very pleasing pale rose colour, having reddish brown spots near the base. The obovate leaves are borne in whorls at the end of the branches, and are usually produced after the flowers open. This Rhododendron is a native of Manchuria and Japan. It is allied to the well-known R. sinense (Azalea mollis).

The Rhododendron forming the subject of the illustration on this page is now flowering in the Temperate House at Kew, where three comparatively small plants, some 3 feet or 4 feet in height, each carrying a wealth of blossom, have been the admiration of visitors for some weeks past. This is certainly one of the most lovely Rhododendrons of the Azalea section, the delightful flowers, pale rose in colour, being light and graceful in the extreme. For pot culture as a cool greenhouse or conservatory plant, this Rhododendron has a great future before it. It is to be regretted that it was not given a less unwieldy name. Another species which somewhat resembles R. Schlippenbachii is R. Mariesii, a tender Chinese species. W. T.

GARDENING FOR BEGINNERS.

INCREASING THE CHOICER PRIMROSES.

THERE are various methods by which plants are increased, and, perhaps excepting seeds, propagation by division is the most important. In fact, it the only way to work up a stock of some plants if they are to be absolutely true to name. Herbaceous subjects are usually propagated by this method, and in one illustration is shown a Primula of the pulverulenta and cockburniana type ready for division.

I know that they can be raised from seed, but there occasionally appears a better form than the type, or we may succeed in getting a new hybrid, and out of the batch of seedlings one is far superior to all the others. Such a plant can only be reproduced by division.

Some growers divide Primulas after flowering, and this is the usual method for Polyanthuses in particular; but I have found that just before growth begins in the spring is a good time for many choice Primulas, and then few failures are recorded. For the purpose of more distinctly showing the crowns, a plant with rather advanced growth was selected (see Fig. 1). In the second illustration can be seen the same plant divided into several pieces or single crowns, which are ready to plant in the open ground, and if pot culture is practised, they may be potted up in 3½-inch receptacles as depicted in Fig. 2. Where choice Primulas are concerned, placing them in pots is a very good plan, and till they are established a cold frame could be utilised, which would protect them from excessive rains. A rich rooting medium is not necessary, but it is advisable to secure some good loam and leaf-mould, three parts of the former to one part of the latter making a suitable mixture. Only a few potsherds are needed for drainage, and the soil should be pressed fairly firm around the crown.

During the summer months the pots may be plunged in ashes, or similar material, as far as the rims, selecting a position on the north side of a wall or hedge where they will be shaded from the direct rays of the sun. The surroundings can be kept moist by sprinkling the plants overhead with a fine-rosed watering-pot whenever the weather is dry and hot, particularly late in the afternoon, which would cause a dew to be deposited upon the foliage, a condition that promotes healthy and clean growth. As the plants grow, additional crowns will be formed, and further division may be taken in hand till a sufficient stock has been raised.

The object of the present note and illustrations is to show the amateur how to deal with a choice variety or sport that may by some chance appear among his plants, especially with Primulas belonging to what may be termed the japonica section. I may add that the chief points when dividing plants are to see that each portion possesses enough roots, to pot or plant out each piece while in a fresh condition, and to give careful treatment for a few weeks after the operation; while propagation by division is most successfully performed when root action and growth commence. S. T.

1.—A PRIMULA WITH STRONG CROWN READY FOR DIVISION.

2. THE SAME PLANT DIVIDED UP. EACH DIVISION MAY BE EITHER POTTED OR PLANTED SEPARATELY.

HOW TO TREAT BEDDING-OUT CALCEOLARIAS.

Cuttings inserted in September or October are often left in the frames until they are lifted for planting out in the flower garden the following spring. This is very bad treatment. The cuttings form a callus at the base of the stem of each in the autumn, but they rarely produce roots before the end of January. At the time that the roots commence to grow, the tops do so also, and it is when the latter have made about one and a-half inches of new growth that the points should be pinched out. In about a fortnight's time side shoots will be growing freely, and these form the sturdy, bushy plant. To improve their condition, however, the plants should be lifted and transplanted in a nursery bed at this stage, and there left until the end of April, when, if the beds are vacant, the Calceolarias must be planted in their flowering quarters. During their sojourn in the nursery beds only temporary protection against frost and cold east winds need be given. Thousands of these plants die annually soon after they are put out in the flower-beds. I have found that the cause is too late planting in June, too deep planting, and lack of moisture at the roots. If permanently planted in April or early in May, the plants get well established before the summer heat comes, and then few fail. B.

RAISING HONESTY (LUNARIA) FROM SEED.

For growing under trees in woodlands and in open spaces between shrubs, as well as in the grass in any wild part of the garden, Honesty (Lunaria) is a charming plant. The season of flowering is very early, and when the purple blossoms are faded, the shining creamy white shields are invaluable for room decoration. Seeds may be sown in boxes in cool frames or in the open border. If in the latter, a position facing east or west should be selected, for the reason that the moisture in such borders at this season is more regular than in those facing due south, and evenness of moisture is conducive to free germination of seeds and growth of resultant plants. The latter must be transplanted when large enough in a nursery border, and from this to their flowering quarters before the summer is much advanced; then they will soon get established. The plants look well in herbaceous borders. Lunaria annua, light purple, is annual or biennial; L. a. albiflora, a lovely white; and L. rediviva, purple, is a perennial variety. Avon.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Narcissi planted under trees and on banks in the flower garden have in many instances bloomed very early this season, and for the sake of tidiness the flower-stalks should be picked off as soon as the flowers become withered. There is often a decided inclination to cut the grass when these subjects have bloomed, but this should not be done for some time, at least not till the foliage shows signs of turning yellow.

Planting Out Forced Bulbs.—In many instances these are relegated to the rubbish-heap, but there are often very suitable places for planting these in the wilder parts of the flower garden or by the sides of the paths in the copse, which in many instances adjoins the garden proper. By planting at this season one can see that they are not placed on the top of other clumps, which often happens if left till all the foliage has died down in the autumn, and the bulbs are not left about all the summer in the pots.

Hyacinths are now throwing up well in the beds, and in sheltered positions they may thus early require support. It is best to do the staking at once, as one night's wind and wet may break off a good many of the flowers and so spoil the effect.

The Rose Garden.

Pruning.—The exceptionally mild winter has kept many of our Roses in an evergreen state, and though full early for the general pruning, a start might well be made with the later-flowering Hybrid Perpetuals. Generally speaking, good hard pruning is best for most varieties, especially where quality is desired in preference to quantity.

Pegging Down.—There are, however, many strong-growing varieties, such as J. B. Clark, Hugh Dickson, Frau Karl Druschki and Mme. Jules Gravereaux (this latter a Tea), which make a very fine show when pegged down to within about a foot from the ground, choosing three or four, or even more, of the strongest and best-ripened shoots for the purpose. This system requires a good deal of room; but vigorous varieties, such as those named, are usually planted at a good distance apart, and the quantity of bloom thus obtained is far in excess of that from plants pruned in the ordinary way.

Pricking Over the Beds.—Needless to add, after pruning, all the beds or borders should be lightly forked over, thus burying any manure that may have been given as a top-dressing earlier in the year, at the same time firming any plants with the heel that may have been blown about by the wind during the winter.

Plants Under Glass.

Imantophyllums are among the hardiest and easiest-grown greenhouse plants, and may be had in bloom over quite a long season. Plants that have been forwarded in a warm house may now have gone out of flower, and if it is desired to increase the stock, these may be divided to single crowns and potted into 4½-inch and 6-inch pots, in which they will prove quite useful for decorative purposes. Plants throwing up their flower-spikes may be liberally fed with liquid manure.

Hanging Baskets.—These are often a decided feature in the houses or conservatory where there is plenty of head room, and may be made up of a variety of subjects, either of the stove or greenhouse. Among Ferns, Nephrolepis is probably the most popular for the purpose, while Acalypha hispida and musaica make fine showy baskets in very quick time, and are made more effective by covering the baskets with Panicum; while Crotons, Dracæna godseffiana, Begonias (both foliage and flowering), Achimenes, Fuchsias and Ivy-leaved Pelargoniums are all useful subjects. When once established, baskets will take an almost unlimited supply of water, and for this reason should not be placed where the drip from them is likely to injure other plants.

The Kitchen Garden.

Sweet Corn.—For an early crop a small sowing should now be made under glass, potting the young plants off into 3-inch pots as soon as large enough to handle. A great deal of heat is not necessary for them, but just enough to keep up a steady growth.

Celery.—For the main crop this should now be sown in boxes, or thinly in a frame on a hot-bed. To obtain the best results a steady growth from the outset should be encouraged, rather than subjecting the seedlings to a great heat at the start.

Beetroot.—A small sowing of Turnip-rooted Beet should be made in light soil not too rich in manure, or the roots will quickly grow beyond a useful size.

Hoeing.—The hoe should be kept going whenever the opportunity offers among the growing crops. This will help them considerably by allowing the sun to warm the soil.

Cabbages will benefit greatly also by having a slight sprinkling of nitrate of soda before the above operation is done; but it must be kept off the foliage, or it may spoil its appearance unless it is immediately washed off, and certainly at this season a watering is quite unnecessary.

Fruits Under Glass.

Figs that are commencing to grow nicely should have the temperature increased somewhat at night, and as the shoots lengthen and the fruits commence to swell, they should be pinched at the fifth or sixth leaf. Thinning the fruits also may be necessary in some instances, but only where a very heavy crop is being carried. Shallow borders should be given frequent waterings, a drought at the time the fruits are swelling being disastrous, and possibly resulting in the total loss of the early crop.

Melons.—Every encouragement should be given to the early batch of Melons, and if grown on the cordon system, the points may be pinched out after the plants have made sufficient side growths to ensure a crop. If planted fairly close, it is best to let the first pair of fruits that are set grow away, rather than wait till a greater quantity are set at one time, as it may mean a difference of a week or two in the time of ripening, and the earliest fruits are always the most appreciated.

Thomas Stevenson,
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Removing Protecting Materials. — If the weather is at all seasonable, protecting materials may now be removed from Tritomas, Gunneras and other plants of doubtful hardiness.

Hollyhocks. — These stately, old-fashioned flowers may now with safety be planted in their flowering quarters. The ground, having been previously manured and trenched, should now be forked over, pits taken out, and partly filled with some light, rich compost to give the plants a favourable start. If had in separate colours, Hollyhocks look well in clumps of three or four towards the back of a mixed border.

Anchusa italica.—The Dropmore variety of this Alkanet is a grand subject for mixed beds and borders. Plants in the reserve garden should now be removed to their permanent quarters in soil that has been deeply dug and well enriched.

Montbretias.—New purchases and tubers which have had protection during winter should now be planted out. Montbretias delight in a rich, friable soil with cool, moist conditions. Among the better varieties are Prometheus, Germania, George Davison, King Edmund, Vulcan and Hereward.

Half-Hardy Annuals.—The remainder of these should now be sown in gentle heat, keeping them close and shaded till germination takes place. East Lothian Stocks are apt to damp off if left too long in the seed-box. As soon, therefore, as the first pair of rough leaves are well formed, the plants should be pricked off into deep boxes of light, rich soil, or into a frame that has had a little fermenting material placed in it. Beware of drip, as the plants are very liable to damp off.

The Rose Garden.

Pruning.—In all but very cold localities the work of pruning bush Roses may now be commenced. I have heard of considerable damage among Roses during the past winter, but here they have come through practically scathless. In pruning, the following is the order in which they should be taken, allowing about a fortnight from start to finish, viz., Hybrid Perpetuals, Hybrid Teas and Teas. Only general principles can be laid down here. In tackling any one bush, first cut away all dead, diseased, extra weak and soft, badly-ripened shoots, after which, where still too crowded, thin out more shoots, retaining those of medium vigour if well ripened. Vigorous growers should have the shoots shortened to ten or twelve buds, while weak varieties should be pruned in fairly hard. If intended for exhibition, Roses should be pruned harder relatively than when only wanted for decorative purposes.

The Shrubbery.

Planting Evergreens.—The planting of evergreen shrubs may be carried out from this time till the beginning of April. The planting of Hollies is best carried out in August, and Rhododendrons should, for choice, be planted in October. The latter, if handled carefully and well watered, may, however, be planted now. When planting, the claims of such subjects as the following should not be overlooked, viz., Andromeda floribunda, Kalmia latifolia, Osmanthus illicifolius, Skimmia japonica and S. laurifolia.

The Water-Side Garden.

Planting.—Those who are fortunate in having a lake or stream within the grounds, if they have not already done so, would be well advised to invest a little money and labour on water-side gardening, from which great pleasure may be derived. Given suitable soil, most of the subjects will take care of themselves after planting. I can only indicate a few in alphabetical order: Arundo conspicua, Astilbes in variety, Carex Fraseri, Iris Pseudacorus and its variegated form, Japanese Irises in variety, Mimulus cardinalis and the common Monkey-flower, Myosotis palustris semperflorens, Podophyllum peltatum, Primulas in variety, especially pulverulenta, rosea and varieties of japonica, Rodgersia podophylla and Rumex viridis rubrinervum.

Plants Under Glass.

Caladiums.—Those started in small pots should now be ready for a shift, using pots according to the vigour and size of the plant. A mixture of loam, peat and leaf-mould, with a little dry cow-manure, pounded charcoal and sand, will be found suitable. Start the later batch in small pots.

Mignonette.—The autumn-sown batch will now be showing their flower-spikes. Give abundance of water, adding a little stimulant till the flowers are nearly expanded.

Pelargoniums.—The Regal varieties should be pinched before they become leggy. Zonals which were cut back a few weeks ago and have started into growth should have their balls of soil reduced and be repotted. Seven-inch pots will be generally suitable. Three parts loam to one part dry cow-manure, adding a little bone-meal and sand, will suit them.

Sowing.—A sowing of Zea japonica variety (improved variety), Kochia trichophylla and Amaranthus salicifolius may now be made for autumn decoration.

The Kitchen Garden.

Onions.—Those that were sown in heat in January will now be ready for pricking off. Use deep boxes, place a layer of spent Mushroom manure in the bottom and fill with rich soil. Prick out about two inches apart.

Celery.—The main batch may now be sown in light, rich soil in some warmth. We stick to Wright's Grove White and Pink, the latter for the late winter and spring supply.

Peas.—Another sowing should now be made. There is great choice. Alderman is hard to beat as a tall variety; but if a medium-height variety of good quality and a good cropper is wanted, Senator will fulfil all expectations. Where sparrows are troublesome (and where are they not?), Pea guards must be placed on the early sowings.

Turnips.—Although still risky, a sowing of one of the Milan varieties should now be tried on a south border.

Liming.—Lime is of great value, especially on clayey and peaty soils. Now is the time to apply light dressings of it in the ground form; cover it lightly with a hoe or rake.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

DAFFODIL NOTES.

DAFFODILS AT VINCENT SQUARE.

March 4 and 5.

THIS show is called in the Royal Horticultural Society's list of fixtures the "Forced Bulb" Show. The intention of those who first suggested the fixture was primarily to provide an opportunity for showing the general public which varieties of Daffodils were the best for pot cultivation; hence the notes that follow are going to be written to carry out this idea. I do not think half enough people know the charm of growing a small and select collection under glass. I could enlarge on this to any extent, but I must content myself with the suggestion of a dozen good varieties that might be grown singly in 5-inch or 6-inch pots. Take Weardale Perfection, King Alfred, Duke of Bedford, Stromboli, Southern Star, Lucifer, Homespun, Castile, Diana, Seagull, Firebrand and a nice Giant Leedsii like White Countess. These would make a charming and varied little lot, which might be still further improved by the addition of a Poet like Homer and a Poetaz like Orient or Jaune à Merveille.

I have, however, in my mind rather what one may call good pot plants; plants, that is to say, which should be grown in the ordinary way in pots, and which seem to me to especially lend themselves to the treatment. One of the surprises of the show was the absence of Topaz. To me it is so pleasing that it seems strange that no one brought it. It has a long, narrow, almost all-red cup, while its creamy white perianth segments are narrow and stiff and throw themselves slightly back. It is a good doer and by no means an expensive variety, being priced at about two shillings and sixpence per dozen. A pot of it was just coming into flower when I left home. Of those that were there, in the front rank I would place Weardale Perfection and Duke of Bedford. These were very well shown by Messrs. Walter T. Ware, Limited. The first named is so immensely improved by being grown under glass that it might easily be mistaken for another variety did one not know its little ways. I heard Mr. Engleheart eloquent on the subject at the Horticultural Club one evening. When he "lets himself go," you may take it from me that there is "a good deal in it." Thora, the beautiful buff-cupped Giant Leedsii, was also on this stand. I have never seen it better done. It is an extremely well-balanced flower, the perianth, which is slightly twisted, going so nicely with the short trumpet or large cup. It is a real gem.

Messrs. Barr and Sons had the three sisters Sunrise, Sunbeam and Mohican in their interesting collection. I mention them because the last named is said to be very good indeed in pots when not forced. As, however, everything came from their new garden near Penzance, the actual flowers staged were no criterion of their pot capabilities. I am rather sorry that it was so, as all the other groups had obviously been grown under glass, and it is quite likely many of the public did not realise this difference. But of these and also of some of the novelties staged elsewhere more will be given next week.

Messrs. J. R. Pearson and Sons (erroneously referred to in last week's report as Mr. J. Duncan Pearson) had their blooms rather on the small side, but they were fresh and clean Scarletta, grown in their Nottinghamshire home, looked very pretty. The deep cream perianth blends so well with the red cup. It is a great thing to know that a variety can be grown outside any favoured climatic zone and bear forcing. Firebrand is one of these, and so is Lucifer. Both were on this stand. I was glad to see two fine bunches of Florence Pearson, their grand white trumpet. At present it is expensive, but I have an idea that in the more or less distant future it will be Florence Pearson and not Mme. de Graaff that will be the great white trumpet of commerce.

Messrs. Cartwright and Goodwin had some splendid Incognita and Castile. I have not grown the first named in pots myself, but I have the latter. It is a real good thing for the purpose, and never seems to fail. Lady Margaret Boscawen, Fairy (yellow trumpet) and Olympia also deserve mention. Seagull was also there, but it was not at its best. It is a variety that I think very highly of. With the exception of last year it has never failed to give an excellent account of itself when grown under glass. It was then small, just as the vase here was. I hope it is not going to belie its promise of being one of our most valuable pot plants. It comes so easily and it is so very floriferous.

I greatly admired a bowl of Lulworth exhibited by Messrs. R. H. Bath, Limited. I am not, as a rule, in love with growing in fibre. This Lulworth was the exception that proves the rule. It was "jolly good." What a fine companion this would be to W. P. Milner, which, like Weardale Perfection, is only seen at its best when grown under glass!

Among the flowers from Robert Sydenham, Limited, were the two trumpets Olympia and Cornelia. The first is a big, rough flower, which I find appeals to many people on this very account. The second is its antithesis, smooth and refined. Both have their admirers, and so both are mentioned here, for the Daffodil family can indeed be "all things to all men."

The highest award of the day—a silver-gilt Banksian medal—fell to Mr. C. Bourne of Bletchley. He had a beautiful group, full of choice new things, such as Roxana, Dazzler, Alpine Snow, Sindbad, Wendy and White Countess. Of these anon. I only mention to-day George Herbert, a pretty little round Poet which promises well, as the blooms staged were grown at Bletchley in 1911–12. (Poets that do well anywhere are very much wanted. I hope there is nothing rotten in the state of Denmark, but I have my fears. It is not all gold that glitters, and it is not every Poet that is a garden laureate.) Apricot is another variety that is distinctly flattered by the protection of glass, as it is then that the pink flush is most marked on its pale apricot trumpet; and Orient, the tall, red-edged Poetaz, one of the very best of its class, and of which my friend Mr. H. G. Hawker remarked, as we stood together before it, "Of the whites Orient, and of the yellows Jaune à Merveille; I don't want to grow any others."

All the foregoing varieties that I have mentioned in detail are good in pots. In almost every case I have grown them myself, so I not only see, but I know, which is far better. *Experientia docet.*

Joseph Jacob.

MAZUS RUGOSUS, A RARE DWARF-GROWING ALPINE WITH DEEP MAUVE OR ROSE-VIOLET COLOURED FLOWERS.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Syringa (Lilac) Hugo Koster.—This novelty promises well as an early forcing variety. The handsome pyramids of flowers as shown were coloured a pale lilac, the individual flowers being of large size and well formed. In its natural flowering season in the open we imagine it would prove one of the most attractive and distinct. From Messrs. Koster and Sons, Boskoop, Holland.

Mazus rugosus.—A neat and pretty early-flowering alpine from the Himalaya and a perfect carpeter of the soil. The violet or deep mauve coloured flowers are produced singly on inch-high peduncles, and are characterised by a three-lobed lip, on which are two sulphur yellow, longitudinal lines marked with violet spots. The flowers are

about an inch or so long, and appear above the carpet of lustrous green, crenated leafage. See illustration, page 139. Exhibited by the Wargrave Plant Farm, The Arcade, Liverpool Street, E.C., and Twyford, Berks.

Saxifraga Faldonside.—This is one of the yellow Boydii race, and perhaps the gem of the little set to which it belongs. The perfectly circular flowers are nearly the size of a shilling and of a clear lemon yellow colour. The plant has the reputation of being a better doer than Boydii, but in any case it should be given a sheltered place in the rock garden or be grown in the alpine-house. From Sir Everard Hambro, K.C.V.O., Hayes Place, Hayes, Kent (gardener, Mr. J. Grandfield). See illustration, page 130.

NEW ORCHIDS.

What was undoubtedly one of the finest hybrid Odontoglossums yet raised was shown by Messrs. J. and A. McBean of Cooksbridge. It is a variety of O. eximium named Alpha. The flowers, of remarkably good form, are densely blotched with chestnut red. First-class certificate.

Awards of merit were granted to the following: Cattleya Trianæ Colossal, from Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt; Odontioda Mossiæ and Miltonioda Harwoodii Moss's variety, both from J. S. Moss, Esq., Bishop's Waltham; Dendrobium bigibbum Lady Colman, shown by Sir Jeremiah Colman, Bart., Reigate; Oncidioda Cooksoniæ Ralli's variety, from Pantia Ralli, Esq., Ashtead Park; and Lælio-Cattleya Smilax Prince of Orange, from Messrs. J. and A. McBean.

The foregoing awards were made at the fortnightly exhibition of the Royal Horticultural Society held on March 4.

NURSERY NOTES.

ANNUALS AT READING.

FOR some years now we have visited the seed trial grounds of Messrs. Sutton and Sons, Reading, for the purpose of inspecting the vast array of annuals there grown, and, incidentally, to note the differences of the varying stocks of this or that—it may be the Sweet Pea, Aster, Stock, Snapdragon, Carnation, Eschscholtzia, or what you will—their trueness to colour, compactness of habit, freedom or superior flowering attributes, or any other matter which for weeks on end each year engages the attention of the firm, and, while making for progress—one of the great aims of it all—stamps this, as indeed all other undertakings of Messrs. Sutton, with the hallmark of excellence.

Novelties may, as indeed they do, exist at the present time in these famed trial grounds; but until they have become of good report, till they have satisfied the exacting requirements of the firm as to their reliability, they are not for the public, nor is the journalist permitted to say anything concerning them. It is all a question of principle, and that phase of it in particular which never starts before being ready, and never adds one jot or tittle that will not sustain the eminence and reputation of this world-renowned firm to the sumptuous volume the firm prepares and distributes.

Perhaps one of the most valuable of the many lessons to be gathered from an inspection of these trials is due to the fact that the majority of the seeds are sown in the open ground; hence we see such as Schizanthus, Dimorphotheca, Kochia and others affording object-lessons of considerable importance. In such instances the sturdy-habited, well-dressed plants are goodly to look upon, and, hardily grown from the start, have a greater power to endure than others of the same kind raised in warmth. This much was particularly well evidenced in the case of the first two groups named, and the gardener should lay the fact to heart. It is of the greater value, too, in the case of tap-rooted or sparsely-rooting subjects, since upon the retaining of every root-fibre formed is the fullest measure of success assured. There are others, however, such as the Snapdragons (Antirrhinums), which, while admitting of being sown in the open in July and transplanted to their flowering quarters in the September following, are raised here for convenience in slight warmth in February and transferred to the open ground in early May, a steady growth being maintained meanwhile. The plants so raised last year were, at the time of our visit in early August, a field of colour difficult to imagine, impossible to describe. Some there are among amateurs to-day who, while delighting in these flowers, just miss the fullest measure of success noted by over-thick seed-sowing and by starving the seedlings before transplanting them. These are the checks from which they seldom recover. Now these Antirrhinums are such an important race—hardy, free-flowering and effective when massed—that they are worthy of much consideration. That they exist in the "Tom Thumb" forms at 6 inches high, in the "Intermediates" at thrice that height, and in the "Talls" at a yard or more high, many will know quite well. Yet how few gardeners appear to have dreamed of combining all three of these in a single border, securing thereby one great glorious gallery of flowers, of which, so far as we remember, no other plant is capable. Yet the idea is not only possible; it is easy. The material exists in abundance and in colours to suit all tastes. It is merely awaiting a due appreciation of the fact. One might, indeed, garden with these Snapdragons in a dozen varieties—white, pink, yellow, rose, carmine, crimson and others—in each or all of the sections, and thereby create a display worth a day's journey to see. That the colours are repeated in each section, too, renders the plants suitable for small and large gardens alike, and a border 100 feet or 200 feet long would be a sight to see. In the boldest borders the two taller sections might predominate, while in borders of lesser size the dwarfs and intermediates might prevail. Thus arranged, the plants would become a feature, and Snapdragon-time in the garden would be something to aim at and remember. One of those we saw at Reading was Fire King, a most brilliant flower; while Bright Pink, Coral Red, which has a white throat; Deep Crimson, which is a velvety maroon; Carmine Pink, Rich Apricot, Orange King, Delicate Pink, and Pale Apricot, of orange, pink and white, are others good and distinct. The whole of these come practically true to their kind; hence good effect can be relied upon. We have dwelt upon the Snapdragon at some length because of its hardiness, free-flowering and general popularity.

Quite one of the best object-lessons noted concerned the Tom Thumb Nasturtium, which gardeners know objects to richly-manured soils. "Objects" is perhaps the wrong word, for the plant just delights in them, the excessive luxuriance of the leaves quite overwhelming the flowers. The great central avenue in the trial grounds was bordered with these and other showy flowers, and in several instances the corners of the borders had been temporarily utilised as a "tip" for manure; the result a splendid crop of leaves and few flowers. Beyond the limit of the "tip," The King, the chief variety at the spot, made a most brilliant display, and in soil that had remained *unmanured* for twenty five years. In such circumstances the moral is as plain as the double-barrelled "tip," if flowers and not a leafy luxuriance is the aim.

We have referred to the great central avenue here, which was more in the nature of display work than a trial, and for the benefit of our readers who delight in spectacular effects we give in conclusion some of the plants employed. Near the railway, Nasturtium The King blazed forth alone; while in other parts the white Alyssum constituted its foreground, with Godetias Duchess of Albany (white), Crimson King and Marchioness of Salisbury (rosy crimson and white), and Evening Star Chrysanthemum at the back. Other sections of this effectively-massed border were made up of Chrysanthemum segetum varieties, such as Northern Star, Morning Star, Eastern Star and the equally remarkable range of colours found in the tricoloured forms of C. carinatum. Clarkias, hybrid Lupines and the annual Larkspurs were alike showy and choice, though to the Orange King Marigold must be assigned the pride of place, a plant undeterred by heat or cold or wet, and whose brilliant and free-flowering attributes are alike incomparable.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely pocked in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SUMMER BEDDING PLANTS (*An Admirer*).—If the Geraniums become so spindly and drawn by reason of the near proximity of the trees, we fear other plants will meet the same fate, and nothing short of repeated experiments with diverse classes of plants will be of much service. For this season at least we should be inclined to try hybrid Pentstemons in variety, crimson and scarlet shades, more particularly orange or white flowered tuberous-rooted Begonias in their immediate front, and a broad band of Godetias as a margin. You might relieve the brilliancy of the first named by interspersing the plants with others of the white Tobacco, which is also a free and continuous bloomer. Unfortunately, you do not give either the width or length of the border, hence we cannot assist you other than from the general standpoint.

SNOWDROPS AND DAFFODILS (*J. G.*).—We imagine from the behaviour of the plants that the position is too dry for both, and the first named, after two years, should now be flourishing. These are not strictly moisture-loving plants, though a considerable depth of loamy soil is very much to their liking. If in addition to the sandy and gravelly soil the position is one of exposure, that would account for the small size of the flowers, and unless you can modify these conditions, we fear there will be little improvement. Narcissus princeps is one of the best to naturalise, but prefers moist woodland clay soil. We koow instances of such that bave remained undisturbed for twenty years or more, the plants having become giant tufts in the meantime. It is quite possible that deep digging, manuring of the soil and replanting in August may improve matters. At the moment all you can do is to flood the ground, if possible, and apply a little nitrate of soda at the same time.

THE GARDEN.

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EDITORIAL NOTICES.

Every description of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, *Tavistock Street, Covent Garden, W.C.*

NOTES OF THE WEEK.

Date of Midland Daffodil Show Altered.—The date of the above show has been altered from April 23 and 24 to April 22 and 23.

Increasing Lavender.—Quite large pieces of this plant will root freely if slipped from the old plants and firmly embedded in the soil. With very little attention the majority will soon develop into quite large bushes; and no time should now be lost in getting them planted.

The Purple Pershore Egg Plum.—This Plum is being planted extensively by growers in the Evesham Valley, where it is likely to eventually supersede the Yellow Egg Plum. The purple variety originated as a sport from the yellow type, and has the same characteristics, being worthless for dessert, but excellent for preserving.

Renovating Gravel Walks.—Now that most of the heavy work of the garden is completed, the gravel walks should have some attention. Where the surface is moderately good, it may be turned over with a fork to about a depth of two inches, levelled and rolled well down. A path treated in this way will look fresh and bright for some time. In many cases it is also necessary to add some new surfacing material, but it must be of good binding quality.

The Glory of the Snow.—Few early spring-flowering bulbs equal the delightful effects obtained by liberal plantings of Chionodoxas. Of the several ways in which they may be planted in our gardens, one of the best is as a groundwork for beds of deciduous shrubs. In such positions the bulbs flower before the appearance of the foliage on the shrubs, and the soil is seldom disturbed except just on the surface. The bulbs increase rapidly by means of offsets and self-sown seeds.

Propagating Thyme.—If a packet of good seed is procured and sown at once in pans and stood in mild warmth, a good supply of young plants may be quickly raised, and with a little attention will soon develop into a nice useful size for planting in well-prepared beds at the end of April. This is the best plan when there is a scarcity of older plants. If there are enough of the latter, pull off young pieces and plant them in small tufts, burying the older wood rather deeply. Make the soil firm, and water a few times if needed till well rooted.

Mounds of Crocuses.—The planting of these delightful spring-flowering bulbs in grass is being gradually extended, more particularly in public parks and gardens. For some years now Crocus-time at Kew has drawn large crowds of visitors on fine Sunday afternoons in late February and March. The most effective plantings at Kew are on mounds or sloping ground, generally in the vicinity of deciduous trees where the grass is not too thick. With the green grass as a groundwork, the effect is much more pleasing than the soil of beds and borders. If, however, the position is too open, the grass generally grows too thickly, and in time the Crocus bulbs deteriorate and dwindle away.

Modern Cornflowers. — Unlike most other flowers, the humble Cornflower of our fields has been spoiled by florists in the attempt to secure colours other than the deep, brilliant blue which is the main charm of the wild plant. The so-called rose and white flowered varieties are washed-out caricatures of one of the most beautiful of our native flowers, and are not worthy of a place in our gardens. Even some of the blue-flowered varieties offered for sale are not so good in colour as those we were wont to see growing in the cornfields.

The Canary Creeper.—Seeds of this pretty climbing plant, also known under the name of Tropæolum canariense, should now be sown in pots of light soil under glass, or placed in the open ground during the month of April. There are a number of situations, both in small and large gardens, where this showy subject could be utilised with telling effect. An old stump of a tree may require covering, arches need furnishing, and a few clumps in the flower border would be an additional charm if allowed to ramble over Pea sticks. Amateurs who take an interest in window-boxes will find the Canary Creeper very suitable for trailing over the sides.

A Shrub to Grow Under Shade of Trees.—Pachysandra terminalis, a low-growing shrubby plant, is one of the most useful subjects to thrive satisfactorily under trees, and therefore one well worth including in collections. It is a native of China and Japan, evergreen and of dwarf habit, and has been known for some time, but seeds were recently sent to England among those collected by Mr. E. H. Wilson. From the Continent comes a very attractive variegated form, which appears to be quite as robust as the former. Both have white flowers, freely borne in March and April, and should prove useful shrubs for inclusion on rockeries because of their low and not too rapid spreading habit.

The Protection of Eremurus.—These handsome plants are gradually, but surely, finding favour; but their liability to suffer from early spring frosts is a great drawback. This, however, can be partly, if not wholly, remedied. At the present season they are about to send up their spikes, but unless some means of protection is given, they may be irretrievably ruined by frost. A few pieces of Bracken can be employed, or an Archangel mat supported by a stake or two will prove effective, while various other methods will occur to the thoughtful cultivator. A mistake is often made when selecting a position for these noble plants. The best aspect is north-west, or wherever the morning sun cannot shine full on them.

CORRESPONDENCE.

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

Lilium sulphureum as an Outdoor Plant.—As I have twice lately read articles in The Garden on Lilies, where it is stated that Lilium sulphureum (or wallichianum superbum) cannot be considered a garden flower as it requires heat, I am writing to tell you that I grow it quite successfully in my small garden here. Planted in a pocket of sand in the border, it produces beautiful blooms in October. This may encourage other amateurs to try this glorious Lily. — (Miss) A. L. Waud, *The Haven, Elstead, near Godalming.*

A Well-Grown Plant of Iris fimbriata.—I think you may be interested to see the photograph of Iris fimbriata which I enclose. I brought the plant from Rome some twenty years ago, and it has only bloomed in a very sparse way twice or thrice during all these years. You wrote me some two years ago as to its treatment, and this is the result, which is most satisfactory, and for which I have to thank you. It has been flowering for a fortnight, and will go on for another ten days, judging from the number of buds on the plant.—T. M. D., *St. Ives, Cornwall.*

Liquid Manure for Rose Trees in Winter.—In answer to Mr. C. Turner's note, page 103, issue March 1, asking for further light *re* above, he may be referred to Foster-Melliar's "Book of the Rose"—still *the* book for enthusiasts. If he will turn up the chapter on manures and also read the calendar of monthly operations, he will see such procedure advocated. Curiously enough, although not seeing Mr. Stevenson's notes, I chose the week they appeared to give my trees a thorough soaking, as I have done regularly these fourteen years past, usually about Christmas. May I be allowed to add as some slight proof that it has had no untoward effect, that I have been quite reasonably successful in the exhibition tent.—N. W. M.

A Useful Greenhouse Plant.—Rehmannia angulata is a most useful subject for the decorating of any cool glass structure. I recently saw a batch of the plants in the greenhouse in Waterlow Park, Highgate, which is thrown open to the public. They looked healthy, with spikes about half grown. At their best they attain a height of 3 feet to 4½ feet, and have a long season of flowering. The form of the flower much resembles the Incarvillea, while the markings in the throat are similar to those of the Pentstemon. In the warmer and most sheltered of our Southern gardens it is said to live out of doors the year through. Propagation is by seed and cuttings.—C. T.

A BEAUTIFUL GREENHOUSE IRIS, I. FIMBRIATA, GROWN BY A READER AT ST. IVES, CORNWALL.

The Teneriffe Broom (Cytisus proliferus).—I was glad to see the reference to this free-flowering Broom in your issue of March 8, page 117. This little-known Cytisus is certainly worthy of extended cultivation as a pillar subject for a lofty conservatory, as instanced by the grand plant that may be seen in the Himalayan House at Kew at the present time. This specimen is clothing a pillar some 12 feet or 20 feet in height. The plant is wreathed with drooping inflorescences of creamy white, Pea-shaped flowers. This Cytisus is a native of Teneriffe, and in the warm parts of this country, such as Cornwall, it succeeds out of doors. In Nicholson's "Dictionary of Gardening" the height of this plant is given as 2 feet to 4 feet. When the trailing growths are trained to a pillar, as in the example referred to, there seems to be no reason why it should not attain six times that height.

Eustoma russellianum.—Time was when this beautiful Gentian-wort, referred to in "Notes of the Week" of the issue for March 15, was met with far more frequently than it is at the present day. Grand specimens were at times exhibited, and, being particular in its requirements, it was regarded as a good test of the cultivator's skill and attention. It says a great deal for the old-time gardener that with the more primitive structures and system of heating he used to grow fine examples of many plants that may now be sought for almost in vain. This Eustoma, which in the olden days was known as Lisianthus russellianus, is a native of Texas. The specific name is in honour of one of the earlier Dukes of Bedford. By sowing the seed early in the year and growing the plants on freely it may be flowered the same year, but the most satisfactory way to obtain fine specimens is to treat it as a biennial. If sown in spring and the young plants are sturdily grown, they will by the winter be established in pots from 4 inches to 5 inches in diameter. About the end of February they may be put into their flowering pots. In an 8-inch pot a large specimen can be grown. A mixture of loam, leaf-mould and sand will suit this Eustoma well. Like many of the Gentian family, the roots are delicate, so that they must be carefully handled and excesses of drought or moisture avoided.—H. P.

Reliable Lilies for the Outdoor Garden.—The list of reliable Lilies from your correspondent the Rev. David R. Williamson, page 135, issue March 15, is decidedly limited, and additions might well be made thereto. For instance, what more dependable Lily have we than the old orange Lilium croceum? It will thrive in the ordinary border without any preparation, and increase quickly by means of its numerous offsets. That it is reliable enough is proved by the fine examples met with at times in cottage gardens, where they are associated with perennials that are of such a robust constitution that they are able to look after themselves. Apart from the beauty of its orange red blossoms, a desirable feature of L. croceum (a feature shared by most of the upright-flowered Lilies) is that it will flower well the first season after planting, and does not need some time to get established as do several of the Martagon section. This renders it a trustworthy Lily for pots, in which I at one time grew it extensively, having to provide a number for the Orange Celebrations which occur at just about its flowering period. Another Lily which seems to me very reliable is one of the most beautiful of all, namely, L. testaceum, also know, as L. excelsum. This Lily, of doubtful origin is exceedingly graceful, and in the nankeen tint of its blossoms stands out alone. The tall, slender stems are of far more stability than one might think, though readily swayed by the wind. That garden group known sometimes as davuricum and at others as umbellatum, near relatives of the Orange Lily, are all reliable, perhaps the best being that known as erectum. L. tigrinum, too, is a good outdoor Lily. Of the Martagons the beautiful Japanese L. Hansonii, whose yellow, wax-like flowers are spotted with dark brown, differs from most of the section in being little, if at all, affected by removal; whereas most of this group take some time to become established. In soil largely of a vegetable nature and moderately moist, L. pardalinum does well and becomes thoroughly established. I am completely in accord with your correspondent concerning L. szovitzianum, that is, if it is given a good, deep, loamy soil and allowed to remain undisturbed for it resents being moved.—H. P.

Plants Flowering Early.—I have had Primula denticulata flowering in an open border since early in January. I raised the plants from seed last April and planted them out in July. They did not die down, and were a month earlier in flower than those I potted and put in a cold greenhouse. The soil is medium, and I kept the soil very firm round their roots. My Apricots began to flower on March 1 on a sheltered south wall. Saxifraga Griesbachii is still in flower, with two large heads and a small one coming on.—M. W. SUGDEN, *Wells, Somerset.*

A Good Cabbage for Spring Sowing.—I am sending you a photograph of Cabbage Carter's Early Heartwell, which is the best variety that I know for spring sowing. As will be seen from the illustration, it makes a good-shaped head, and the flavour and texture are all that one can desire. If seed is sown about the end of March, good Cabbages will be ready for cutting during the early part of June. I notice that Messrs. Carter recommend it also for autumn sowing; but as I have never tried it for that purpose, I cannot say how far the recommendation is justified.—A. B., *Essex.*

Rose Lyon in New Zealand.—I have just been reading in a back number of THE GARDEN how the Lyon Rose varies under different treatment. I should like to tell you how mine behaved. It first flowered with a fine pink Rose, somewhat the colour of Ina Bingham; then on another branch it flowered the true Lyon—"shrimp pink and coral red" I think the catalogues say of it. On a third shoot it bore only coral red Roses; then the whole thing died. I suppose the effort to produce three distinct kinds of Roses at one time was too much for it. I hoped to save the coral red shoot, for I have never seen such a beautiful colour in Roses before or since; but I was unable to do so. I hope this may interest you.—E. O'CALLAGHAN, *Hawera, New Zealand.*

Daphne Genkwa.—On page 96 of issue February 22, Mr. Smith mentions this as the most captivating of the genus, and with that I think everyone who has seen it in flower will agree; it is one that should find a place in every garden where a suitable position can be found for it. Here it has withstood the winter in the open. A few other shrubs worthy of note which are sure to become more popular when better known are Ceanothus Topaze, a strong-growing variety, with clear blue flowers; Cotoneaster Fontanesii, a lovely plant for the autumn with brilliant red berries, about three feet high; Cytisus kewensis, a beautiful plant for the rock garden, with creamy flowers that appear about May. Unfortunately, the rabbits had a special liking for my plants this winter, for they were all eaten off to the graft before discovered. Exochorda macrantha has fragrant, snow white flowers which are very fine in the spring. Philadelphus Virginal is a magnificent Mock Orange with fine white flowers. Veronica hulkeana is a good climber, planted under a south wall; it has stood the winter again and made good growth. It should have slight protection in very severe weather, and if planted where it gets drippings of water, should have a board or something to carry them off, as the shrub appears to suffer more from these than frost; it flowers in the spring, and the flower-spikes are pale lavender.—W. BEE, *Surrey.*

FORTHCOMING EVENTS.

March 28.—Beckenham Horticultural Society's Meeting and Lecture.

March 29.—Paisley Spring Flower Show.

THE ROSE GARDEN.

THE PRUNING OF ROSES.

I.—GENERAL PRINCIPLES.

Study the Plants.—In order to prune well, it is, before all things, necessary that the gardener should have a clear idea of the object he wishes to attain and the probable means to achieve that end; and I should like at the outset to point out that for the end in view, theory alone will help but little if it is not combined with a careful personal study of the plants themselves. The habit of growth of the different species and varieties varies greatly; even in individuals of the same species differences of growth will be found, and each variation in habit probably requires some modification in the treatment to be applied.

The Objects in View in pruning are mainly three: (1) To secure the constant production of new wood and so prolong the life of the plant; (2) to obtain finer and better flowers than the plant would produce if left to itself; (3) to fit the plant for the position it occupies in the garden.

Now, the Roses in our gardens are plants in an extremely artificial condition. For the most part they consist of plants budded on the Dog Rose or other strong-rooting wild species. The means generally resorted to by wild Roses in a state of Nature for the production of new growth and perpetuation of the plants are not open to them in our gardens. An interesting illustration of this is recorded by Professor Crépin. He noticed that the American species R. humilis, which had once been very common in European gardens, had at one time nearly disappeared, and he found the explanation to be this: In its wild state this Rose pushes out long roots or rhizomes, which produce shoots destined to replace the principal plant, which usually perishes after languishing for some years. In cultivation these shoots have been cut off without much consideration of their place of origin, and so the plant, formerly very common, disappeared from nearly all gardens. To preserve this pretty little miniature Rose, he adds, these shoots must be carefully sought for and removed when sufficiently rooted and planted elsewhere.

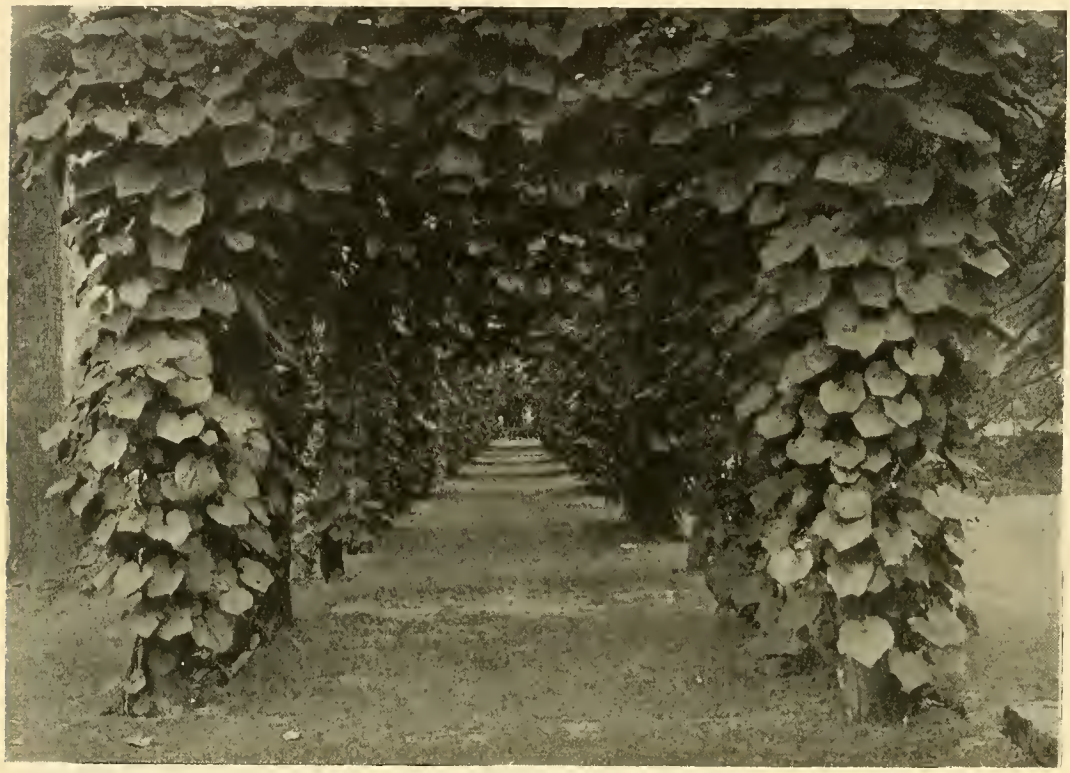
This is, of course, an extreme case; but another illustration may be taken from the multiflora and wichuraiana hybrids, now so commonly used as climbers in our gardens. These produce straight or lax green shoots of considerable length which do not flower the first year, but the year following, from the axils of the buds along the greater part of their length, laterals or side shoots are produced, on which the flower-clusters are borne. Now comes the point. When these flowers are over, this long shoot, which has turned brown, is finished so far as flower production is concerned. It is true that if the flowering laterals be left they will again send out shoots from their buds, which will flower in a third year, but no more flowering shoots will be formed immediately from the old stem. It is best, therefore, as a rule, to cut it away after it has flowered, leaving the plant to devote its energy to the fresh shoots of the year.

Hard, Barren Stems.—On old standards of Hybrid Perpetuals and Hybrid Teas, particularly those pruned on the long method, it is common to see the growing and flowering part separated from the stem by an ever-increasing length of hard, brown wood which has become useless for flowering purposes and serves only as a carrier for the growing and flowering parts. The longer this brown, flowerless wood becomes, the poorer, as a rule, become the growth and flowers at its extremity, and at the same time the stem itself is liable to attack by frost or fungus, so that it is only a question of time before it becomes necessary to remove it altogether.

In the case of standards, where specially large heads are desired, and for large specimen bushes, it is sometimes necessary to keep these long, barren stems; but, as a rule, for ordinary garden Roses it will be our object to keep as few of them as we can. We cannot, of course, permit our budded garden Roses to renew their young wood by the development of suckers, for this would soon lead to the death of the budded plant; but we may properly make it our object to encourage the Rose to do the nearest permissible thing to this, namely, to have recourse to the constant production of strong young growths from the collar of the dwarf or the head of the standard just above the point of insertion of the bud. By the encouragement of young wood not only do we increase the length of life of the Rose, but at the same time we improve our chance of obtaining good flowers from our plants. The method we are to adopt to procure this constant succession of young wood must greatly depend on the position the plants occupy in the garden. It is not only

CABBAGE EARLY HEARTWELL, AN EXCELLENT VARIETY TO SOW NOW.

by pruning back that this result can be attained, but also by thinning out weak shoots and pegging or bending down the strong ones. The pegging-down systems can be adopted where we have plenty of room at our disposal and strong-growing varieties to deal with. On walls or screens the strong shoots can be trained fanwise or more or less horizontally, while in the case of many of the Hybrid Teas grown as pillars, bending down the growths for a month or two in early spring is a convenient method of inducing the plants to break from the base. This may to some extent be assisted by careful syringing.



THE PERGOLA OF HARDY ORNAMENTAL VINES IN THE GARDENS AT GUNNERSBURY HOUSE, ACTON.

It may incidentally be mentioned that there are certain Roses, such as Maman Cochet and its white sport, which will naturally break from the base with very little encouragement. The growth, at first upright, soon bends over after the flower forms, and strong young basal shoots are readily formed. If there is room at our disposal, all we need do in these cases is to remove the old and any unripe wood when pruning. The amount of space the plant can be allowed will in such cases be the determining factor in guiding our operations, for with varieties of this character I have noticed in several cases that we get a greater vigour of growth when little shortening is practised than when the plants are closely cut back. This, however, can only be permitted so long as the plants continue to make good young shoots from the base of the stems.

It is often stated that one of the objects in pruning is to increase the growth of the plant; and some have gone so far as to suggest that where sufficient growth is made without pruning it should not be practised at all. Both statements require considerable limitation. I have found that, with nearly all varieties of very vigorous growth, the stems produced from the basal buds forced into activity by pegging down are from one and a-half times to twice as long as those of severely-pruned plants of the same variety and the same age. A French writer once instituted a comparison between great growth made by a plant of Climbing Aimée Vibert allowed to grow practically unpruned on a house wall and a bed of Victor Verdier Roses, which, after being pruned by expert gardeners for twenty years, were found to weigh somewhat less than when first planted.

In both these cases pruning, far from increasing growth, has materially hindered it. It is, nevertheless, the fact that if we take two plants of Hybrid Perpetuals or Hybrid Teas of the same kind and prune one lightly and the other severely enough to start the basal shoots into growth, the length and vigour of the individual growths on the severely-pruned plant will be decidedly greater than on that which has received little pruning, provided the plants are allowed to grow upright and in otherwise similar conditions, and this effect will be increased year by year if in subsequent years the same course is pursued with regard to the two plants. The object of pruning is, however, principally the production of flowers. Vigorous growth is only of incidental interest towards this end. It will be necessary to consider separately the various groups or classes, seeing that the Roses of different groups, and even the members and varieties in those groups, behave very differently in the matter of flower production, just as our demands on them vary, for in some cases we seek a few fine flowers; in others, many flowers, smaller, but well shaped; and in others, caring little for the individual flowers, we seek for a mass of colour in the garden. The appropriate treatment for these different groups and classes will be considered in subsequent articles. White Rose.

(To be continued.)

TREES AND SHRUBS.

SOME CHOICE HARDY CLIMBING PLANTS.

The number of woody climbing plants suitable for the outdoor garden has increased enormously during the last few years; therefore it may not be out of place to direct attention to a few of the choicer and more useful kinds in order that those who are not well acquainted with them may be guided in their selections. As a rule, the kinds referred to may be expected to be hardy in all but the coldest parts of the country; but where there is a doubt about hardiness, it is mentioned in the description. In the selection no attempt has been made to keep strictly to new plants, for some which have been grown in our gardens for half a century are still among the most beautiful and most useful.

Actinidia chinensis.—This is a very vigorous, free-growing plant, and by far the best of the Actinidias. Introduced from China about twelve years ago, it soon became popular by reason of its large, heart-shaped leaves, which, together with the shoots when young, are covered with showy, reddish hairs. The yellow flowers are 1½ inches across, and those of female plants are followed by edible fruits as large as a small Plum. It thrives in good loamy soil, and is an excellent pergola or trellis plant.

Akebia quinata is an older plant, but it is not met with so frequently as its decorative qualities deserve. Of vigorous habit, it may be expected to cover a large bush or a tree 18 feet to 20 feet high. Its five-parted leaves are very distinct, while its purple flowers, which appear in spring before the leaves, are borne in profusion. It is only when planted against a warm wall, however, that its violet-coloured fruit is ripened. A second species, A. lobata, is equally worthy of note.

Clematis Armandii.—This is a showy, white-flowered species which was introduced from China early in the present century. The flowers are usually borne in April, and they appear in good-sized axillary clusters, each flower being 1½ inches to 2 inches across. Apart from the flowers, the plant is conspicuous by reason of its oblong, evergreen leaves, which are up to 6 inches long and 2 inches or more wide. It may be planted against a pergola, trellis, or wall.

Clematis montana rubens was fully described and illustrated in The Garden for February 15.

Clematis Durandii should be planted in those gardens where difficulty is experienced in the cultivation of the ordinary garden varieties, for it rarely goes wrong in the way they do; it grows vigorously and bears its large, purplish flowers in profusion. The yellow flowers of C. orientalis tangutica make it an object of special interest, and it is well worth a position against the pillar of a pergola. A variety of the old C. montana also deserves a word of praise. This is C. m. Wilsonii. Its flowers are larger than those of the type, and many open during the autumn.

Wistaria chinensis.—No list of choice climbers would be complete without this, for although it has been an occupant of our gardens for a very long period, it is still one of the most beautiful of all climbers. Of exceptionally vigorous habit, it is adapted for planting against high buildings or for covering good-sized trees, while, as it is amenable to severe pruning, it is well adapted for quite low walls and pergolas. After the required space has been covered, the object of the cultivator should be to secure as many stunted, spur-like growths as possible, for such growths continue year after year to produce a wealth of racemes of fragrant, mauve flowers. The white-flowered variety may also be planted, but neither the double-flowered form nor the kind with variegated leaves is recommended. W. multijuga, however, should be planted by all means, especially on pergolas, for its elegant racemes of fragrant, mauve-coloured blossoms are sometimes between 3 feet and 4 feet long. Its white variety is also very beautiful.

Jasminum primulinum is excellent for the milder counties, but is not sufficiently hardy for general cultivation. In places where it thrives it is quite as beautiful as the old Jasminum nudiflorum, than which there are few more showy climbers, while its golden flowers are larger than those of the older plant, and often have the curious hose-in-hose arrangement of the corolla, which is a familiar feature in some Primula flowers.

Hydrangea petiolaris is worthy of attention, for it is a neat-growing, self-clinging plant. It may be planted against a wall 15 feet or 18 feet in height, and a single plant may be expected to cover a space of 350 square feet and give little trouble except in guiding the leading shoots in the desired direction, and once a year pruning away any breast wood which is not desired. Flowers are borne freely during the summer in large, flattened heads. It is a native of Japan, and has long been in cultivation, although it is not widely grown.

Schizophragma hydrangeoides is a Chinese and Japanese plant closely allied to the above. It climbs in the same way, by means of aerial roots, and may be used for similar purposes. Another useful species may be obtained in S. integrifolia.

Celastrus articulatus should be planted where a vigorous climber is wanted for the wild garden or woodland, for it is only seen at its best when allowed to develop freely. It will ascend and cover a large bush or moderate-sized tree, and although of no account so far as flowers are concerned, it is very pretty in the autumn when covered with its orange and red fruits.

Vitis.—There are many excellent kinds of Vitis which are first-rate subjects for pergola planting (see illustration on page 144), but space will only allow of mention being made of V. Coignetiæ, V. armata var. Veitchii, V. leeoides, V. megalophylla, V. Thunbergii and V. Thomsonii, with the showy-leaved V. henryana for wall planting. All must have rich, loamy soil.

Rubus, such as R. flagelliformis R. bambusarum and R. ichangensis, have scandent branches, and are excellent for the pergola and trellis; while the now well-known Polygonum baldschuanicum is excellent for planting against a large bush or small tree, over which its branches may ramble at will, for freely-grown examples usually blossom more profusely than those which have their growth restricted. D.

THE STAR-FLOWERED MAGNOLIA.

(M. STELLATA.)

No garden is complete without this pretty shrub. It is the first of the Magnolias to flower, and this is a distinction very much in its favour in a mild spring, but ending in disaster in a very cold one. Unlike the well-known evergreen Magnolia grandiflora, so often used for clothing the walls of houses with warm aspects, the subject of this note is deciduous, and the flowers are borne from the latter end of March and through April before the leaves are fully developed. The starry flowers are pure white, and are greatly cherished for their sweet fragrance.

All Magnolias show a dislike for certain soils, and this may explain the reason why they are not more extensively grown. A good loamy soil of free and open texture is probably best, but, above all, it is important to plant in as warm a position as possible. Magnolias, again, are very impatient of removal, a characteristic that seems peculiar to the whole Magnolia family; the reason for this is found in the fine fibrous roots that are so easily damaged. Transplanting is sometimes a necessary evil, and in such cases the work should be carried out in the spring just at the time when growth commences, and not in the autumn, as sometimes advised.

Magnolia stellata is most effective when planted in large beds, the bright flowers lending pleasing brilliance to the landscape in the sunny days of spring.

A BED OF THE STAR-FLOWERED MAGNOLIA (M. STELLATA). THIS IS A BEAUTIFUL EARLY-FLOWERING SHRUB FOR A LAWN BED.

THE HEATH GARDEN.

(*Continued from page* 134.)

HAVING disposed of the principal varieties of Erica vulgaris, those remaining are generally a little later in flowering, and, with one or two exceptions, are not recommended for planting in large quantities.

The Dorset Heath (E. ciliaris), however, makes a very effective mass about a foot in height, bearing pale red flowers, coming in a little later than E. vulgaris.

E. cinerea, sometimes designated the Scotch Heath, embraces a fair number of dwarf-growing plants, rarely exceeding 12 inches high, and mostly of red and purple shades. The type is represented by a neat little plant of about nine inches high, with purple flowers shading to lilac. Alba and alba major are the only white forms we have noted, the former being a fac-simile of the type, except in colour, the major form being slightly larger and later. Atropurpurea (9 inches), atrosanguinea (6 inches), coccinea (6 inches), purpurea (9 inches), rosea (9 inches) and rubra (6 inches) are pretty correctly described in the names they bear. Spicata is perhaps the tallest of this section, bearing long spikes of a dull red, showing somewhat dingy when placed beside those already named.

A rather curious specimen is found in E. scoparia, the flowers of which are of a greenish hue; the plant attains a height of about two feet, and the flowers are distributed unevenly on longish spikes.

The Corsican Heath (E. stricta) forms a large bush about three feet in height, and possesses more of an upright habit than any of the genus. Its foliage is also especially attractive, particularly in the earlier stages of growth; the flowers are a

pale red colour, and are borne near the terminals of the shoots.

With E. maweana, a dwarf-growing variety, rarely more than 9 inches in height, and having flowers of a rich purplish red, which are usually at their best in the month of October, we would close our list of hardy Heaths; but another very interesting genus belonging to the same Natural Order is found in Menziesia, and which is usually included among the Heaths, having a similar habit and succeeding under the same treatment.

The Irish Heath (Menziesia polifolia, syn. Dabœcia polifolia, the St. Dabeoc's Heath, and perhaps better known as Irish Heath) is a very pretty plant, and quite as hardy and as free-growing as any of the Heaths. There is a purple and also a white variety each about a foot in height and of upright growth; the foliage is attractive, being a glossy green above and white beneath. The individual flowers are larger than any of the Ericas, and are drooping, the white form being very pretty.

M. empetrifolia, a synonym of Bryanthus empetriformis, is a neat little bush of about six inches in height; the flowers are reddish purple, and, being clustered near the extremities of the branches, produce a strong colour effect in the group.

M. cærulea, syn. Phyllodoce taxifolia (Yew-leaved), is somewhat scarce and difficult to get true. It possesses very shiny, green foliage, and flowers of a lilac colour. The Menziesias, when grouped in a bed according to height, have a fine effect, and make a pleasing contrast with the Heaths. All the varieties flower during summer.

Another excellent plant for the hardy Heath border is Fabiana imbricata, and, although belonging to the Order Solanaceæ, it so much resembles the Heaths, both in foliage and in flower, that it may find a place among them. This has white flowers of exquisite purity, very freely produced on long branches during May and June. The plant grows to a height of 3 feet, and, having a somewhat erect, rigid growth with very attractive foliage, is always conspicuous. In cold districts it requires the shelter of a wall and protection during severe winters. The plant will thrive in light loam without the addition of peat. It also makes a capital subject for the decoration of the greenhouse or conservatory when grown in pots. There are also numerous varieties of hardy Heaths, especially in the vulgaris group, that make excellent decorative plants when grown in pots, or at least transferred to pots from the open border before showing flower, and if suitable-sized pieces are grown for that purpose they will well repay the little attention they require. It is not claimed that they would rival such varieties as E. gracilis or E. hyemalis for indoor decoration, but where soil and climate are suitable, a large stock for the purpose can be economically obtained. Thomas Wilson.

THE GREENHOUSE.

NOTES ON CHRYSANTHEMUMS.

Exhibition Plants in March.—During this month, especially the latter part of it, cultivators will be very busy moving their forward plants into 6-inch pots, and the more backward of the early-rooted ones into 5-inch pots In order to grow every variety to perfection, the cultivator should be well acquainted with the habit of them; but it is a fact that the most experienced grower fails to have all varieties at their best in any one season, so that it is wise to grow a few more varieties than are actually required on this account alone. Furthermore, it is a wise plan to adopt, because some varieties fail one season and succeed another, so that from the surplus plants good blooms are often obtained.

CARNATION DELICIA, A BEAUTIFUL WHITE-GROUND BORDER VARIETY WITH PINK AND CRIMSON MARKINGS.

Potting Plants in March.—Some varieties do better in small pots, say, 9-inch ones, than in 11-inch, and in order to have all plants in such a condition that the work of potting can be done conveniently and in the best possible way, they must be grown on in pots of at least two sizes while young. The compost used now must be somewhat rougher—more lumpy—than previously. I like to pull the fibrous turf to pieces in every case, and for this potting to leave as many lumps as possible about the size of a Walnut; the potting-stick will soon compress such lumps within the space allowed when potting is done. Furthermore, I prefer to sift out, through a quarter-inch mesh sieve, all the fibreless portion, and so retain the most fibrous. This sifting must be done gently, so as not to disturb the form of the lumps retained. Then sweet leaf-soil, road grit or coarse sand may be added to replace the sandless small lumps, which tend to clog the drainage if left in. I particularly refer to loam of a heavy, or rather heavy, nature. To every bushel of the above combined parts add a 3-inch potful of bone-meal, one of soot, a 6-inch potful of wood-ashes, and chemical manures according to the instructions given with them, if these manures are favoured by cultivators. Ordinary firm potting is best; avoid undue pressure of the soil, and do not go to the other extreme and leave it too light. Pick out the plants so as to repot only those that are forward enough for the purpose.

Frame Treatment.—Undoubtedly the plants do better in cold frames at this season than in any heated structure. Much heat can be husbanded in a cold frame at this season from sunshine, but a too close atmosphere would result in a weakening of the growth. It is only advisable to keep the frame closed, or nearly so, during the four or five days following the potting of the plants. If the compost was in a medium state of moisture, watering will not be necessary for at least four days if the foliage is gently syringed twice daily on bright days.

Frame Propagation of Border Varieties.—Even an inexperienced cultivator need not hesitate to insert cuttings of border varieties freely either in boxes or the beds in cold frames now. It is better to put them in boxes, because the latter can be taken out of the frame for the hardening of the plants and the freeing of the frame for other kinds of plants in due time. Even if the old roots or stools look well in the borders now, it is advisable to root some cuttings, and those healthy-looking suckers are just the thing; none could be better. If the boxes are 3 inches deep, with holes or slits in the bottom for drainage, put in first a thin layer of rotted manure, then nearly fill the box with a sandy compost, and finally surface the firmed soil with coarse sand. Put in the cuttings 3 inches apart each way, water, and keep the frame closed for two or three weeks. The cuttings will soon form roots, and the young plants will be available for planting out early in May, when they should be given an open position and moderately rich and deeply cultivated soil. For autumn effect in the border these Chrysanthemums are indispensable. Avon.

THE FLOWER GARDEN.

NOTES ON BORDER CARNATIONS.

ALTHOUGH these plants are accommodating in the sense that they do not make heavy demands upon the time of the grower through the winter months, they will prove resentful of neglect. Therefore, whether the wintering is done in the open garden or in cold frames, the plants are always in some appreciable degree in one's mind.

It has steadily grown into a regular custom to place a portion of the stock in cold frames for the winter, because several of our most beautiful modern varieties have rather poorer constitutions than the old favourites, and, especially in strong, cold soils in a low-lying garden, the winter losses are apt to be serious. Their treatment all along must be that of hardy plants and not of tender ones, since if the latter course is pursued, trouble and anxiety are bound to arise sooner or later. Exclude torrential rains and heavy snow, but apart from that, see that the plants have all the fresh air and light that it is possible to afford them. This will spell slow and hard progress, and when the time arrives for planting, scarcely any bother and no worry will crop up.

If the positions decided upon have not yet been prepared for their reception, it is wise to attend to the task forthwith, because it is desirable that the soil shall settle well down after the deep moving that is so advantageous, and for the food virtues of the manure to become widely distributed throughout the ground. As far as the actual process of preparation is concerned, let it suffice to say that it is impossible to dig too deeply or too thoroughly, and the advantage of mixing rotten manure, well down, cannot be questioned, though one is opposed to the system which brings the manure in immediate contact with the roots. With the top spit it is sound practice to incorporate a generous dressing of crushed lime or mortar rubble, and if there is some old soot at command, work in some of it as well. The plants are most appreciative of both of these things, and their use tends to improve the flowers considerably.

As a rule it is wise to defer the planting until the end of the month in favourable situations, and until the first or second week of April in cold gardens where the soil is on the strong side. Meantime, let the plants be steadily hardened, so that they will not feel the slightest ill-effects from the change of climatic conditions.

Plants that have passed the winter in the positions in which they are to flower usually thrive better than those that have to be disturbed, provided that the roots are in a friable medium and that they have been promptly re-firmed after the roots have been displaced by sharp frosts.

Mr. James Douglas of Great Bookham, Surrey, has most kindly placed the illustration on page 146 at the disposal of the Editor, and he describes Delicia as a fine representative variety of the fancy group; it has a white ground with pink and crimson markings. This leading expert also speaks most highly of Mrs. Elliot Douglas as a pure Narcissus yellow self, and of Mrs. Griffiths Jones as a soft apricot self. Those who are wise will give the trio a good trial this season, procuring some for planting about the beginning of next month. F. R.

THE MULLEINS AND HOW TO GROW THEM.

The Verbascums, commonly known as Mulleins, have been greatly improved during recent years. I know of no plants more noble or picturesque than the newer varieties. Their pyramidal spikes towering up among other border plants are just the very flowers which give the whole border a light, graceful and most natural appearance. The roots enjoy a good deep soil.

How to Propagate Them.—The Mulleins are easily propagated from root-cuttings. Cut the fleshy roots about two inches or three inches in length, taking care that the cuttings are kept upright; then place them about two inches apart in sandy soil in pots, pans, or boxes. Insert the roots so that the tops of the root-cuttings are level with the soil; then cover them with about a quarter of an inch of sand. Place them in a cold frame or greenhouse, sprinkle them with water occasionally so as to keep the soil just moist, and they will soon begin to shoot. Spring is the best time to propagate, though it can be done in the autumn quite successfully.

Protecting the Roots.—The plants sometimes die in the winter, but this is not because there is any deception as to their hardiness; but on account of their free habit they sometimes flower themselves to death. When the stems are cut down, the plants can often be prevented from dying by placing over the crowns (during winter) some fibre, coke-ashes, or sand. When the crowns of the plants often appear to be dead, the roots are still alive and in quite a suitable condition for propagating.

Varieties to Grow.—Mars is a most peculiar colour of buff, turning red towards the centre. Caledonia is a very effective variety. The colour of the flowers is sulphur yellow, suffused bronze. Ivanhoe, with its flowers literally packed on tall, branching spikes and of a deep rosy fawn, is very fine. A. M. Burnie is rose and bronze. One of the most distinct varieties is densiflorum. The foliage is quite distinct from any of the others, and is a beautiful light green. The spikes are not quite so dense as the above-mentioned, but of a more branching habit. The flowers are yellow, with a bronze orange centre. I consider this is one of the most attractive. The above-mentioned varieties all grow from 3 feet to 4 feet high.

A BED OF MULLEINS OR VERBASCUMS. THE PLANTS SHOWN ARE MOSTLY SPECIES AND ARE USEFUL FOR CREATING BOLD EFFECTS IN THE GARDEN.

Tall-growing Varieties.—Three of the best tall-growing Mulleins are Miss Willmott (white), phlomoides (beautiful soft yellow) and pannosum magnificum (syn. gloriosa). The last-named is a giant species and a very noble plant. The foliage forms beautiful tufts during winter of a thick downy silvery white. It throws up large branching spikes to a height of 6 feet, which are literally covered with bright rich yellow flowers.

Graceful Hybrids.—Wiedmannianum and its hybrids are a very pretty, graceful-flowering section. They throw up slender stems from 2 feet to 2½ feet high, which are covered with flowers. The different hybrids vary in colour from white to palest rose, pale purple to the deepest purple, and deep rose to copper colour. Another which must be included is Chaixii alba. It has strong stems about three feet high, which are crowded with white flowers. J. L. E.

DAFFODIL NOTES.

DAFFODILS AT VINCENT SQUARE.

March 4 and 5.

(*Continued from page* 139.)

One hesitates about saying very much either for or against the latest comers when we only see them in their pot-grown condition. According to the doctrine of chances or the law of proportion, there will be the small class, like Weardale Perfection, Firebrand and W. P. Milner, which revel in the kindly protection and warmth of a glass-house, and which are only seen at the top of their form when so treated; and there will be the larger class, where no appreciable benefit is gained from it, but, on the whole, probably rather the reverse. Will readers please remember this in perusing what follows. I may be damning with faint praise this, which, grown more naturally, would show quite a different face, or praising that, which, in the open, would certainly fall below the standard of excellence here presented.

I will deal with Messrs. Barr and Sons' group first, as all the blooms in it were grown in the open. During the day I had a talk with the secretary of the Breconshire Show, in the course of which she incidentally remarked that they had three climates in the county. I have since set myself this sum. If there are three climates in Breconshire, how many are there in England and Wales, and how many in the British Isles? I have nearly forgotten my algebra, but I have a dim recollection that there was a convenient "x" which one could put down to represent any unknown quantity. I unhesitatingly put down "x" as the true answer to my problem. Talk to a Devon man, as I did directly after my confab with the secretary, and he will tell you that his county is not Cornwall, and that North Devon is not South Devon. Then you might chime in, as I did, and say, "Neither is Cornwall Shropshire." Every single variety that I grow, and that was on Messrs. Barr's stand, was in the hard bud stage, or even hardly that, at Whitewell, when they must have been in their full glory at Rosemorran. Even Lemon Princeps and Alert were only just expanding on March 3. Ever since two men bought a £50 stock after reading something I had written in The Garden, I feel I cannot be too cautious in what I say, and thus in the very forefront of another season's notes, which the Editor has again kindly asked me to supply, I call attention—I would it were with a megaphone that could reach every Daffodil enthusiast's ear—to the enormous differences of climate which our flower has to live in when it finds a place in the gardens of the British Isles. When you pause before some real beauty and wish it were yours, try to see in the leaves the signalman's green flag, and "proceed cautiously."

Probably by far the most attractive flower in Messrs. Barr's collection was Sunrise, which was shown in excellent condition. It is a lovely thing; the yellow in the perianth only adds to its beauty, and acts like a "softener" in a magic lantern. A representative of one of our most famous British firms, who is not much up in Daffodils, consulted me during the show about purchasing five or six goodish things for their autumn trade. "I want to show you one I would like, and I want to know what you think." I followed him as best I could in the crowd. He took me to Sunrise. "Ah," I said, "you are a pretty good judge of what's what; but if you could buy even a couple of hundred wholesale you would be a lucky man." It is a comfort to know it is a good increaser. I was glad to see Fairy Queen given a prominent place. It is a small, lovely, smooth-petalled little Leedsii, going quite white with age, with a sharply-cut-off cup and the perianth segments gracefully incurving toward their tips. It is very floriferous and is a quick increaser, equally good under glass and in the open.

NARCISSUS WHITE FRANK, A BEAUTIFUL NEW VARIETY SHOWN AT VINCENT SQUARE ON MARCH 4. (*Much reduced.*)

In Messrs. Cartwright and Goodwin's group two varieties stood out pre-eminently. Neptune is an exquisite bicolor giant incomparabilis, which I can best describe as a "show" Lady Margaret Boscawen. The perianths of all in that vase would satisfy the most exacting judge. Maiden's Blush was the other one, a very ugly flower, but it was marked "Sold" early in the day. Why? There was an unmistakable pink edge to the short trumpet. Who knows but what this ugly duckling may be the progenitor of a pink-cupped race!

Messrs. W. T. Ware, Limited, had all their flowers in pots, one bulb in one pot. A little lot of Macebearer occupied the top centre. It always reminds me of my favourite Bernardino, but its petals are more formal, and its cup, which is shorter and more expanded, is banded orange red rather than suffused. Diameter of the flower, 3⅜ inches; diameter of the cup, one and three-sixteenths inches. White Nun is a taking giant Leedsii, of what I call the squat, well-groomed type; prim but pleasing. I was much taken with a recurvus-looking Poet with a rimmed eye, named Siena. The great difference in the widths of the alternate segments was very pronounced. I do not seem to remember such another. Princess Alice, as its name suggests, is similar in style to Princess Mary. The perianth, however, is a creamy white, and Mr. Ware assured me that its constitution was good, which is more than can be said of its namesake. It is by no means an expensive flower.

I liked Messrs. J. R. Pearson's small, dainty giant Leedsii Capella; Messrs. R. H. Bath's white perianth Barri Star of the East; and Messrs. R. Sydenham's new, almost triandrus hybrid-looking Leedsii White Frank (see illustration), none of them in the front rank as exhibition varieties, but delightful flowers. Mr. Bourne had several of these tip-toppers. He had some excellent Moonbeam, which struck me very much, as it is so very late—the white flag which heralds the summer truce after the heated battles of the shows. Next to it was a single bloom of an even whiter one, Alpine Snow, as white as any triandrus hybrid, and, of its type, *the* whitest in the show. Wendy is a refined flower after Mr. Bourne's own heart. Its distinction and charm lie in the wonderful deep apricot colouring of the expanded cup, which towards the edge passes to a decided buff (size of bloom 3⅛ inches, by three-quarters of an inch depth of cup, by 1 inch width at top). A last word for his superb blooms of Whitewell. They quite rivalled in their depth of colour that never-to-be-forgotten bloom of Miss Currey's at Birmingham. Joseph Jacob.

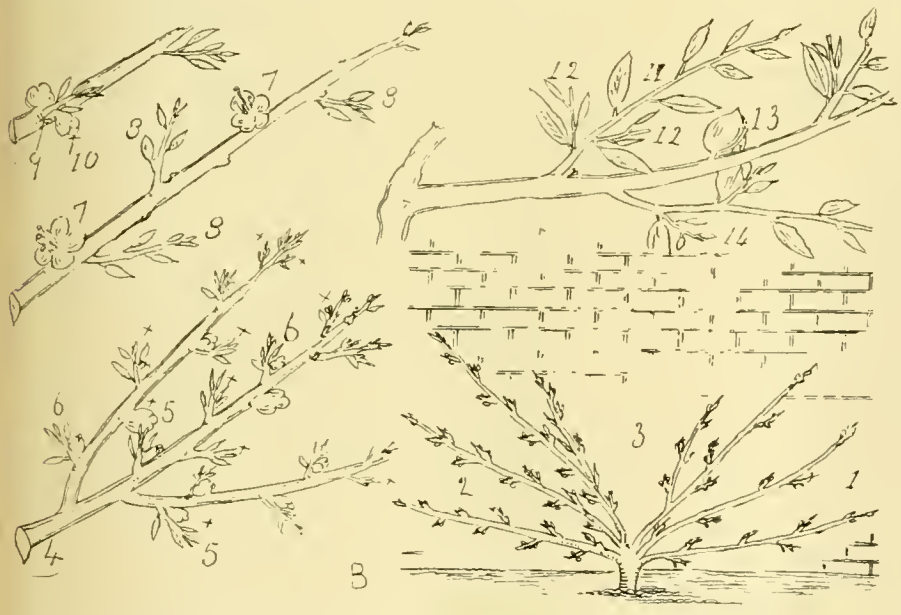
GARDENING FOR BEGINNERS.

HOW TO DISBUD VINES AND PEACHES.

BOTH Vines and Peaches make rapid growth and produce young shoots in great numbers throughout the spring and summer seasons. If all the shoots that grow were left to mature, the Vines would become a tangle like Blackberry bushes on hedges, and the Peaches would be so overcrowded with them that neither the buds nor the fruits would colour and ripen properly. An inexperienced cultivator does not fully realise the importance of early and judicious disbudding, because he is misled by the sparse appearance of the tiny shoots. Early disbudding is essential to success. In carrying out the work the cultivator must not rush it through; that is, although he may be able to remove every surplus shoot in a single day, he should not do so, but only pinch out a few each day, and so spread out the work that it will be completed in about a week. There does not follow any check to growth of either branch or fruit left on when this system is adopted. In the case of Vines, the disbudding should commence when the young shoots are about an inch long, or when the tiny bunches can be seen in the ends of the shoots. It would be unwise to do the work before, as so many good-sized bunches might be sacrificed unintentionally. In the case of Peaches, the disbudding should be commenced directly the shoots are large enough to handle.

THE WORK OF DISBUDDING VINES EXPLAINED. SOME GROWTHS ARE REMOVED AND OTHERS LEFT.

The Accompanying Illustrations will enable a beginner to understand more clearly how the work ought to be done. Fig. A shows at No. 1 a Vine rod, a few years old and bearing spurs, ready for disbudding. The shoots, Nos. 2 2, on the lowest spur are worthless and should be removed. The shoot, No. 3, is the one to retain; it bears a bunch of Grapes, which can be seen at this stage at the extreme end of it. On the second spur there are two good shoots, both bearing bunches of Grapes. No. 4 is badly placed and should be removed. No. 5 is well placed in this instance and should be retained. Where there is only one young shoot on a spur, as shown at No. 6, and that spur is at the proper distance—18 inches, or nearly that—from others on the same side of the rod, it must be left to grow. No. 7 shows how the young shoots must be retained on a young Vine rod, No. 8 denoting the position from which surplus shoots have been removed. No. 9 shows a portion of a Vine rod on which a young shoot, bearing a bunch of Grapes, has been duly "stopped" at the point, No. 10; then all the strength of the Vine goes to nurture the bunch and the main leaves. The sub-lateral shoots being stopped at the first leaf prevents any overcrowding of foliage. No. 11 shows the wrong way to remove a shoot—to disbud—and No. 12, the right. The young bunch can be seen under a glass, as shown at No. 13, but the leaves, No. 14, surrounding it must never be forcibly pulled back for the purpose, else they may be broken or torn. Fig. B depicts how Peach trees should be disbudded. No. 1 shows one-half of a newly-planted tree properly disbudded, and No. 2, the other half, not disbudded. The centre, No. 3, will always fill up. No. 4 shows a large branch bearing both flowers and shoots. Nos. 5 5, denoting shoots and flowers, with crosses near them, must be pinched off. Nos. 6 6, those without crosses, should be left on to grow. A single shoot, or branch, properly disbudded of both flowers (where very numerous) and young shoots, is shown at Nos. 7 7 and Nos. 8 8 8 respectively. Where there are flowers in pairs, as shown at No. 9, with a shoot growing between, the shoot and flower, No. 10, on the under side, must be removed where there is overcrowding. No. 11 denotes a young shoot of medium size a few weeks after the general disbudding. It may be left unstopped, and side shoots, Nos. 12 12, stopped as shown. The swelling fruit is shown at No. 13. No. 14 is a branch treated similarly to No. 11.



HELPFUL ILLUSTRATIONS TO THE CORRECT METHOD OF DISBUDDING PEACH TREES. (FOR EXPLANATORY NOTES SEE TEXT.)

One of the most common errors made by amateurs in the cultivation of Vines and Peaches is that of leaving six shoots when there is only room for one. By following carefully the foregoing instructions the beginner will be able to carry out satisfactory the work of disbudding, which plays such an important part in the resultant crops. G. G.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Tuberous Begonias.—For bedding-out purposes these should now be started in boxes in an intermediate house, or, where large quantities are grown, it may be wise to devote a slightly-heated frame to them. Here they may be just covered with light soil, and if given plenty of room to develop their foliage, may stay in the frame till planting-out-time, hardening them off as growth proceeds. From the boxes they will require potting off when nicely rooted, or may be planted in a cold frame.

Seedling Fibrous-Rooted Begonias should be pricked off as soon as large enough to handle, keeping them growing freely in a warm house or pit. This also applies to the seedling tuberous-rooted plants.

Pentstemons and Antirrhinums sown early in the season ought by now to have made sturdy little plants, and should be pricked off at once. When they have got well hold of the new soil, they may be removed to a cold frame.

Propagation generally must be proceeded with, getting in all the cuttings possible during the next week or two, as after the end of March there is not a great length of time for the young plants to grow and be hardened off before bedding-out-time.

Carpet-Bedding Plants may be rooted in the boxes in which they are to remain till planting-out-time.

Alyssum minimum is a plant much used for edging, and where it is raised from seed it may be sown at once, pricking off the seedlings into a cold frame when large enough to handle. Seedlings do not make such a nice even edging as plants raised from cuttings, but they are certainly much less trouble.

Annuals.—The present is a good time (providing the soil is fairly dry) to sow seeds of annuals either for cutting purposes or for garden decoration. Too thick sowing is not to be commended under any circumstances, the plants growing better and flowering for a much longer season when thinned to a good distance apart.

Plants Under Glass.

Hydrangea paniculata.—Plants plunged out of doors may now be pruned, bringing in a batch as soon as the basal buds have plumped up nicely. Though the plants will stand a little forcing, the best results are obtained when they are allowed a fairly cool greenhouse temperature.

Pelargoniums that are showing bloom should be well looked after in the way of water and manure, especially if in small pots, and as they are sometimes apt to become infested with green fly, a fumigation should occasionally be given. Specimen plants should be neatly staked out, leaving the stakes long enough to give an extra tie to the flowers as they push up well above the foliage.

Malmaison Carnations are now growing freely, and should be given a little more room to allow the side growths to develop properly. An 18-inch stake may be put to each plant, to which to secure the flower-spike as it pushes up. If well rooted, a little manure-water may be given, or a dressing of an approved fertiliser applied about every other week.

Shading Material.—Now that the sun is gaining power, it may be necessary to shade some of the more tender stove plants, as well as batches of plants recently potted. The flowering house is best shaded during the hottest part of the day, so that all blinds should be overhauled and placed in position at once. I am not an advocate of too much shading at any time, but in some instances it is quite necessary and helpful to the plants.

The Kitchen Garden.

Potatoes.—Maincrop Potatoes may be planted at any time now. Those for semi-early use need not be planted so far apart as those for late use. These latter should have at least 30 inches between the rows, especially in heavy soil, and, during the progress of planting, such soil should be well broken up with the fork, or it will mean a great deal more labour during the growing period previous to earthing-up. It is needless to mention varieties, as nearly every district and garden grows some varieties better than others; but a thorough change of seed every year is extremely beneficial, and well repays the extra outlay.

Runner Beans.—For very early work a small batch should now be sown in pots, three seeds in a 6-inch or 8½-inch pot being a very good plan to adopt, and the latter will carry them quite a long time without them suffering, should the weather be unfavourable for planting out.

French Beans in pits will be growing freely now, and to encourage a stocky growth plenty of air may be given on fine, warm days. When they are near or touching the glass, a good covering must be given at night to ensure them not being injured by frost.

Fruits Under Glass.

Orchard-House Trees.—Plums and Pears, having now set their fruit, might be benefited by a slightly higher temperature, giving the trees a good syringing morning and afternoon on fine days, but sufficiently early to allow of them becoming thoroughly dry before night. A few of the early Apples may be coming into bloom, and if these are kept in a batch by themselves, fertilisation will be easier. Too much moisture at the roots is not necessary at this season, but it must be remembered that if they get thoroughly dry it is very detrimental to the setting and swelling of the young fruit.

The Hardy Fruit Garden.

Raspberries.—If not already done, these should be gone over and matting tied to the wires, allowing a fair distance between each cane. Where stakes are used, it may be necessary to renew them, using good, strong Hazel or Ash stakes which have been prepared beforehand by tarring the bottom for at least 18 inches. These being surface-rooting plants, they should not be deeply forked between, but a little short manure may with advantage be lightly pricked into the surface of the soil.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sweet Peas.—These, whether in pots or boxes, must have an abundance of air and light to prevent the plants from becoming drawn and weakly. In fine weather the lights of the frame should be removed entirely.

Sweet Williams.—Self-coloured varieties of these, such as Sutton's Pink Beauty, are very telling when planted in masses, and where they have been wintered in the reserve garden, they should now be planted out, taking care to lift the plants with good balls of soil.

Canterbury Bells.—These biennials are among the most showy of our summer hardy flowers, and should not be overlooked. Planted out now with good balls of soil, they will commence flowering early in July.

Pansies and Violas.—The sooner these are planted out, the sooner they will begin to flower. It is advisable, as far as practicable, to plant them in fresh quarters annually. We have been for several years planting a certain variety of Viola as a groundwork among the bulk of our Roses. All has gone well up till the present, but nearly the whole of the young stock have died during the winter; while of other varieties which have had their summer quarters changed regularly, hardly a plant has perished. The lesson is obvious.

Shrubby Veronicas.—There are a number of barely hardy shrubby Veronicas which deserve attention, such as V. salicifolius, V. Andersonii, V. A. Diamond and so on. If they have been hardened off, they may now be planted with safety. They can either be associated with herbaceous plants or planted immediately in the front of the shrubbery. V. Andersonii variegata is a useful bedding plant, and looks well in conjunction with Salvia patens.

The Rock Garden.

Scented Plants.—A few of these should find a place in every rock garden, but variety could be obtained by devoting a portion of the rockwork wholly to these. In the higher reaches Lavender, variegated Mint and Balm could be planted, and, further down, the Sweet Marjorams and Santolinas, finishing at the base with Thymes, dwarf Menthas and Micromeria Douglasii.

Plants Under Glass.

Repotting Palms.—Palms, being largely used for the decoration of rooms and corridors, should be grown in as small pots as possible, and with careful watering and judicious feeding they will do with less root room than most plants. Potting must be had recourse to from time to time, however, and the present is a good time to carry out the operation.

Phyllanthus roseo-pictus.—So far as I know, this is the only member of the genus which can be called showy. Its delicately-tinted, graceful foliage, however, well entitles it to a high place among our stove plants. It is easily propagated by cuttings in heat, is not particular as to soil, but prefers a sandy loam, and, so far as my experience goes, has no enemies. If regularly cut well back in spring, a bushy habit will be formed, and the plants will be serviceable for many years.

Cyclamens.—Seedlings, the result of an August sowing, should now be ready to pot off into 2½-inch pots. Use equal parts of loam, good leaf-mould and sand; lift the seedlings carefully, pot rather loosely, and only half cover the corms when potting. Spray twice daily and shade from bright sunshine.

Shading must now be provided for the various plant-houses, although cool houses should receive attention last. Where time and expense are no barriers, movable shadings should be used; but in most establishments fixed shadings are the rule. A useful shading can be made from sour milk and whiting. Newly-slaked lime does very well, but should not be allowed to come in contact with the putty. When applying, form wavy lines in preference to straight ones.

Fruits Under Glass.

Thinning Peaches.—This work must be carried out with discretion. A strong-growing variety will bring to perfection more fruit relatively than a weak one. This principle holds good with trees of the same variety, and once more the principle holds good with regard to different shoots on the same tree. Commence the operation when the fruits are about the size of small marbles, and if fairly well placed, retain the largest fruits. Be careful not to tear away a portion of the bark. Give the fruits a sharp twist and pull towards the point of the shoot.

The Hardy Fruit Garden.

The Black Currant Mite.—It is to be feared that no thoroughly efficacious remedy has yet been found for this destructive pest. If, however, the opening buds are dusted three times between this and the end of April with one part ground lime to two parts of flowers of sulphur, the mite will be well kept in check. The bushes should be damp when the mixture is applied.

Looking Ahead.—The stock of netting should be overhauled and augmented if necessary, as it may be requisitioned on short notice when spring frosts occur while Pears, Plums, Apricots and Cherries are in bloom.

The Kitchen Garden.

Turnip-Rooted Beet.—It is too early yet to sow the main crop of Beet, but a sowing of a Turnip-rooted variety should be made for early use. Several firms now offer varieties superior to the old Egyptian variety. For this class the drills need not be more than a foot apart.

Planting Cabbages.—A planting should now be made from those sown in the autumn. A good plan is to plant a batch of an early variety, and a batch of Winningstadt to succeed it before the spring-sown stock turns in. Give the autumn-planted batch another dressing of nitrate of soda or old fowl-manure and stir with the Dutch hoe.

Lettuces.—Give the autumn-planted stock a dressing of soot and stir with the hoe. Make another sowing. All have their favourite varieties. We use little but Neapolitan for the main crop; if a Cos variety is wanted, Paris White Cos is hard to beat.

Celery Trenches should be formed and manured when time will permit. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ROCK AND WATER GARDEN.

MY FIFTY ALPINES.

THE problem of exclusion, so bravely tackled by Mr. Arnott in THE GARDEN for March 1, is one of intense interest. In all such lists and choices there is bound to lie a challenge to other gardeners and different tastes. It is hardly to be thought possible that I in particular could sit quite quiet, in patient peace, beneath a selection which finds no room for Dianthus alpinus! And I trust that Mr. Arnott's choice will stimulate other gardeners also to give theirs. At the same time, it must be understood that I do not in any way cavil at Mr. Arnott's selection. It is the charm of such selections that they are almost bound to elicit the views of other people. Each gardener has his special favourites, to whom he burns to see justice done (and bravo, Mr. Arnott, for putting Ramondia Nataliæ instead of the commoner and dowdier R. pyrenaica). Therefore will I come forward, not to attack Mr Arnott, but to break a lance or two in favour of some of my especial loves omitted in his list.

The plants to be chosen, let us postulate, must all be of easy and robust growth in any garden, great or small, under reasonable conditions of culture. Shrubs, with one or two exceptions, are to be excluded. And also, as the field among bulbs is as vast as that among alpines, I think it is hardly fair, in a choice of rock plants, to run the risk of having to crowd out here and there a treasure to make room for such and such a no less treasured bulb. No, it will be (and has, alas! been) hard enough to make a selection among fifty alpines; if bulbs are to be thrown in, there will be weeping and gnashing of teeth indeed. Of bulbs and monocotyledons for the small rock garden, let us now have a separate list, please, Mr. Arnott. It will be very easily filled up, and will need hardly less drastic selection than the other. Iris and Crocus alone will bring up many fierce rivalries, and half crowd up the list already. No bulbs, then, no annuals, no shrubs as yet (except the indispensable) and, above all, a prolonged season from spring to autumn.

Now for the personal excisions that I must make from Mr. Arnott's list. Out goes Adonis amurensis, a lovely thing as you see it in a Japanese bog garden, just a golden button on the earth and no more; in gardens, of a shrill and venomous green-tainted yellow, like that of so many poisonous Ranunculads (but compare the pure and bland citron of Trollius), and in habit rather ill-bred, to my taste, in its development. I question next Arnebia's claim to front rank, and I do not expect my list will be able to afford more than one Aubrietia, for certainly more Campanulas will be wanted. Erica carnea, again—good, pleasant thing—is "general utility" rather than a first choice. Galax aphylla is surely quite low down among one's loves; not by any means a plant to include at the cost, say, of Gentiana acaulis. Then comes Hypericum fragile, not to be compared, in my eyes (*pace* Sir Herbert Maxwell), with either H. reptans or H. Coris. After this I chiefly supplement Mr. Arnott's list, though I cannot set pretty, commonplace, useful Silene Schafta among my first fifty beloveds. Synthiris hardly seems of first rank either, and Shortia galacifolia, though lovely, certainly yields in beauty to S. uniflora grandiflora, and neither is of universally easy culture; at least, I trust there are some gardeners who share my perpetual inability to make either of them seem really happy. At this rate, if Shortias are to come in, where is Schizocodon, which, at its best, is lovelier than either? Finally, the great races are too scantily represented. Where only two Campanulas are allowed, it is surely unjust to sacrifice indispensable pusilla or amenable Allionii to the stout and comparatively dowdy-coloured garganica hirsuta; and the great silver Saxifrages in themselves are winter furnishing far above Erica carnea.

But the task, however you achieve it, is a cruel and terrible one. I may say that my first choice of fifty absolutely indispensable plants that no gardener in his senses could possibly live without amounted in the end to ninety-five, and the anguish of reduction beggars language. Even then, when one has mangled one's choice into the required limits, there are bound to remain a certain number of tiresome "utility" plants, such as Gypsophila repens and Saponaria ocymoides (or lovely Anemone Hepatica as an early bloomer), that have to be kept in (or *ought* to be kept in, if one has the heart) at the cost of Campanula Elatines, C. Raineri and C. Zoysii, or Saxifraga retusa, S. cochlearis and S. longifolia. Not that one is within a hundred miles of liking them so well, but because they can be relied on always for a fine and large display of a commonplace, brilliant nature, under commonplace treatment and conditions, just like any Knotgrass or Goatweed. (For at this moment I hate them heartily and grudge their very existence.)

With regard to the soil mixtures, I believe that, as Mr. Arnott says, a good, light compound will suit nearly all alpines. Where I have suggested lime, it is not because lime is clearly necessary (as it almost is, I believe, for Gentiana "Gentianella"), but because the species attributed to it seem specially faithful to it in Nature, as, for instance, the Arthritic Primulas, constant to peaty soil on the high limestones, as against P. minima from the same peaty turf, but quite indifferent as to its underlying rock. With regard to aspect, again, each garden and climate has to discover its own rules. I have merely suggested such conditions as seem to answer here in an alpine climate, cool, wet and cloudy. The rules I have hinted at have been, however, as universal as possible. Sempervivum and Papaver, for instance, are universally unfavourable to shade and damp and heavy soil. In cases where I suggest an open aspect, it may be found that in hot, Southern gardens a less torrid position may be better. And now, please, let someone else come forward with another list of fifty indispensable alpines, or, perhaps, a secondary list, to include the forty-five irreplaceable treasures that I have had to excise, with breaking heart, from the first choice of universal and glorious rock garden plants.

REGINALD FARRER.

[We shall be pleased to receive further selections of alpines from readers, or criticisms and comments on Mr. Farrer's and Mr. Arnott's selections.—ED.]

Name.	*Height. Inches.*	*Aspect.*	*Soil.*	*Colour.*	*Flowering Period.*	*How to Propagate.*
Aquilegia glandulosa	12	Open	Cool, rich vegetable	Blue & white	May	Seed
*Androsace lanuginosa	—	Sun	Sandy, light loam	Pink	Late	Cuttings
Anemone sylvestris major	12	Shade (?)	Rich, cool	White	Early & late	Divide
*Arenaria montana	—	Sun	Light loam	,,	May - June	Cuttings
Aster alpinus	9	,,	,, ,,	Violet	June	Divide or seed
*Aubrietia Moerheimii	—	,,	,, ,,	,,	April - June	Cuttings
Campanula Allionii	3	,,	*Non - calcareous* moraine	Purple	May	Seed or divide
C. G. F. Wilson	6	Open	Good, light loam	Violet	August	Divide
C. portenschlagiana	6	,,	,, ,,	,,	Aug. - Sept.	Cuttings or division
C. pusilla	4	,,	Any	Blue	June - Oct.	Division
*Daphne blagayana	—	,,	Stony peat	White	Feb. - June	Divide
*Dryas octopetala	—	,,	Good light	,,	May - June	Seed or cuttings
Dianthus alpinus	3	,,	Limy loam or moraine	Rose red	June - July	,, ,,
Geranium argenteum	6	,,	Limy loam or moraine	Pink, silver-leaved	May-Oct.	Seed
G. cinereum album	6	,,	Light loam	White	May-Oct.	,,
G. lancastriense	4	,,	,, ,,	Pink	,,	,,
G. wallichianum Buxtonii	4	,,	,, ,,	Blue, white-eyed	,,	,,
Gentiana "Gentianella" (acaulis)	3	Sun	Limy loam	Azure	June	Divide
*Gypsophila prostrata rosea	—	,,	Any	Pink	May-July	Divide or seed
Hepatica angulosa	6	Shady or open	Cool, rich	Blue	Jan. - April	Divide
Hypericum Coris	6	Sunny	Light loam	Gold	July - Sept.	Seed
*H. reptans	—	Sun	,, ,,	Rich gold	July - Nov.	,,
Litbospermum graminifolium	9	,,	Limy loam	Pale blue	June	,,
Mertensia primuloides	6	Open	Cool, moist moraine	Sapphire amethyst	June - Aug.	Division
Myosotis rupicola	4	Sun	Light loam or moraine	Turquoise	May-July	Seed
Oxalis enneaphylla	4	Shade	Rich and cool	White	May-Oct.	Divide
Papaver alpinum	5½	Sun	Moraine or very light soil	White, gold, pink, orange	May-Oct.	Seed
*Phlox G. F. Wilson	—	Open	Light loam	Lavender	May - June	Divide or cuttings
*P. Nelsonii	—	,,	,, ,,	White	,,	,, ,,
*P. Vivid	—	,,	,, ,,	Salmon rose	,,	,, ,,
Primula Auricula	9	Open or cool	Rich loam and rock	Citron	March-April	Seed or cuttings
P. clusiana	5	Open (sun)	Limy, peaty l'm	Rich rose	,,	Seed or division
P. × intermedia	4	Open	,, ,,	,,	April - May	Division
P. marginata	5	Open or cool	Limy loam	Lavend'r bl'e	,,	,,
P. × pubescens alba	—	,, ,,	Good loam	White	,,	,,
Ranunculus parnassifolius	—	Open	Cool, moist, limy silt or loam	,,	May	,,
*Saponaria ocymoides splendidissima	—	Sun	Any	Pink	Summer	,,
Saxifraga Aizoon rosea	9	Open	Light, limy loam	,,	May - June	,,
S. lingulata Bellardii	12	,,	,, ,,	White	,,	,,
S. l. lantoscana	9	Shade	Good loam	,,	,,	,,
S. Cotyledon	1½	Sun	Light, limy loam	,,	,,	,,
S. burseriana Gloria	5	Cool	Rich, limy loam	,,	Feb.-March	,,
S. Paulinæ	4	,,	,, ,,	Citron	,,	
*S. Camposii (Wallacei)	6	,,	Good loam	White	May	Cuttings
Ramondia Nataliæ	6	Shade	Peat & leaf-mould	Violet	,,	Division
Sempervivum Cornellii	12	Sun	Very light loam	Steely rosette	July	,,
Silene alpestris	8	Cool or shade	,, ,,	White	May - Sept.	,,
*Veronica Teucrium dubia (rupestris)	—	Sun	Any	Blue	——	Seed
Viola gracilis	7	,,	Light, rich soil	Imperial v'l't	May-July	Seed or divide
Wahlenbergia serpyllifolia major	1	,,	Light, good soil	Purple	——	Divide

* Trailing

NOTES ON THE GARDENING ACROSTICS.

THE acrostics are over and the prize-money has been distributed, and we now publish our promised comments. First let us say that we hope they have been acceptable to a good many of our readers, even beyond the number of those who attempted their solution. The short explanatory notes of most of the "lights" were specially printed, in order that, if possible, it might be so. The following extracts are from two of the last letters received on the subject: "I am very pleased to see you are going to give another series next winter." "I almost wish the end of the year had come again so that I might tackle some more of your puzzlers." Such will be the case, we hope. Profiting, however, by our experience, readers will find certain changes. The questions will not be so difficult on the whole, and the marking will be different. Instead of each acrostic counting one and there being no sliding scale between absolute right and absolute wrong, each "light" correctly solved will count 1, and each "firsts" and each "lasts" also 1. Thus, to take No. 1, "China Aster," the full marks would be 12. We quite see that it is hard to count nothing when, as in No. 2, so many had all right except the vineyard "light," which should have been Hoxton, but which a large proportion gave as Hatton Garden. Our "puzzler" is not infallible, and sometimes, either intentionally or unintentionally, he is vague; hence the wisdom and fairness of our proposed amended marking. It will also, we hope, promote increased competition, inasmuch as it will be quite worth while to send in partly-completed solutions, which in the last competition were valueless.

The "difficult" question is not so easy of solution, but we have the satisfaction of knowing that our "Saint Worrier" (to use a name given him by a very well known old-time Liverpool cricketer on account of his blocking tactics in the days of his youth) knows how to temper his worryings to the library opportunities of our readers. Another season's acrostics will not be so severe, although we may have to call in some "Senior Wrangler" to help us in our fractional calculations when the prizes are sent round. There will be eight acrostics, or possibly ten, and if between now and next November any scheme strikes us as feasible by means of which we might make two classes of competitors, we will certainly try it, as our wish is to give as many as we can of our readers at least a "sporting chance" interest in them. We take the acrostics *seriatim:*

No. 1.—No fewer than 172 solutions were sent in, of which 111 were correct. Our acrostic writer got frightened and thought he was too easy, and Nos. 3, 4 and 5 were the result. In the last named only twelve solutions were sent in, and every one was wrong. "Ironwort" was put for "Indian Shot," and "Arbour" or "Arbor" for "Alder."

No. 2.—The stumbling-block was the locality of the vineyard. One hundred and thirty-seven solutions were sent in, and only fifteen were correct. Hatton Garden was a favourite locality, and Walford's "Old and New London," Vol. IV., page 4, was quoted in support.

No. 3.—A great falling off. Only thirty-seven sent in, out of which but four were right. The "difficult" plant was variously given as Iris iberica and I. reticulata. These would fit in and would come under the head of "difficult," but Iris susiana was the plant intended.

No. 4.—This was undoubtedly too hard. There were fifteen solutions sent in, and only one was correct. We congratulate "White Lady" on being that one. "Singers of an 'O'" puzzled nearly everyone. Pelargonium would have done just as well as Palm; but we had to keep to our rules.

No. 5.—Twelve attempts were made to solve this, and not one succeeded. Olive in the majority of cases was given as the well-known "green." We cannot find much about it in comparison to the Orange, and would be grateful for a note on the relative importance of the two from any of those who put it as their solution. "Simpling" was a stumbling-block in several cases.

No. 6 was much easier, and out of twenty-two sent in, fourteen were right.

No. 7.—Sixteen solutions came to hand, of which six were correct. Several put Hepatica for Henna as Mahomed's Flower of Paradise.

No. 8.—This was purposely difficult. We have had several letters asking why "Le Jardin de Hollande" should be translated "The Dutch Gardener." The one is not a translation of the other, but they are both the chosen titles of the French and English editions of van Oosten's little Dutch book on bulbs.

With these brief notes we conclude our acrostic season of 1912–13. If, on reading the foregoing, readers have any suggestions to make with a view to our going "one better" next time, we would be glad to hear from them.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Potatoes.—In most gardens the earliest Potatoes have been planted for some considerable time, and the chances are that they will demand careful watching to prevent injury or perhaps ruination. Although a position is chosen with a warm aspect and preferably where the soil is light, it is unwise to conclude that no frost of sufficient severity to cut the tops will occur. Have immediately at hand enough light protective material with which to cover the plants, and one may then feel reasonably secure. It is by no means amiss to give 1oz. of nitrate of soda to each 3-feet run of drill just before the first earthing is done, as it tends to encourage finer stems and leaves. The second-early varieties, which will be planted directly the soil and weather are favourable, ought to have wider spacing between the lines, because they grow more strongly and to facilitate passage down the alleys when the time comes to take preventive measures against the disease. As a general rule, 27 inches should be allowed from row to row, and a distance of 14 inches should be given between the sets in them. Each tuber ought to carry two excellent, hard, deep green sprouts to ensure a splendid plant; or, if the tubers have not been prepared, let the shoots be reduced to two with the same object. Drilling in is much preferable to dibbling, and if wood-ashes are at command, scatter some before the seed sets are placed in position.

Sowing Tomatoes.—A common error made by amateurs whose equipment of frames is not complete is to sow their Tomatoes for outdoor culture too early. Where there is only one structure, the middle of April is early enough; but where there are two of different temperatures, seeds may be sown between the present date and the end of the month. To achieve success it is imperative that the plants shall be hardily and sturdily grown, and the earlier the sowing is accomplished, the more trouble is involved in keeping them in that state. If sufficient small pots are available, sow one seed in each, as this precludes the possibility of root disturbance; if not, sow very thinly in pans or boxes to obviate the necessity of any thinning and to make the task of moving much easier without giving the slightest check. The slower the rate of advance, provided there is no complete stoppage, the better the plants will be.

Successive Peas.—The good grower of vegetables regards an unbroken succession of Peas as a necessity. He is by no means satisfied when he produces exceptionally early or extraordinarily late crops, unless he has had plenty of perfect pods in between times. With a view to securing this he makes sowings at frequent intervals of his favourite varieties, and he fervently hopes that the weather will not develop that peculiar phase which upsets all human calculations. An excellent rule is to sow a fresh row immediately its predecessor is through the ground. The drills should be shallow, flat-bottomed and firm, and the seeding, after heavily coating with red lead where mice cause worry, must be thin to economise seeds and labour, and favour a sturdier, far more prolific plant.

Winter Greens.—The earliest sowings of Brussels Sprouts, and perhaps of other kinds, too, have long been made; but green crops must be available from early in the autumn until late in the following spring, and seeds must, therefore, be sown in batches. Between the present date and the middle of April, according to the soil and district, the principal sowings will be made. Specially-prepared beds for the seeds are desirable, if not necessary. It is customary to select a position on a warm border the soil of which is thoroughly dug to the depth of at least a spit, and with the top 8 inches may advisedly be mixed a generous quantity of refuse manure or flaky leaf-mould. Such material as this is appreciated by the tender roots, which cling to it with considerable tenacity and thereby favour transplantation with a ball of soil attached. Thin seeding and early thinning are details of paramount importance.

Broad Windsor Beans.—A sowing of a good strain of Broad Windsor Beans must be made towards the end of the month. It cannot be claimed that these Beans have the same conspicuous importance as Peas in the vegetable quarters, but in no circumstances must they be omitted. Double lines are usually preferred to single ones, and the flat-bottomed drills, 3 inches deep in most soils, ought, therefore, to be 10 inches or 12 inches wide. Place the seeds 3 inches apart along each side 1 inch from the edge, and later thin out to 6 inches asunder in both lines for fruiting. This allows plenty of air space and profitable plants result. H. J.

TRANSPLANTING ONIONS.

By this time all preparations should be completed for transplanting autumn-sown Onions. Too much stress cannot be laid upon the fact that the Onion is one of the deepest rooting vegetables we have, and in consequence responds to deep cultivation. The young bulbs should be planted 6 inches apart in rows with 14 inches between the rows. It is found that transplanted Onions are less liable to the attacks of the much-dreaded Onion fly.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Potatoes in 1912.—According to the Annual Returns of Crops just published by the Board of Agriculture and Fisheries, the Potato crop in 1912 was the lowest on record, the average yield being 4·84 tons per acre, the previous lowest figures being 4·97 tons in 1900. Owing to a larger area being under Potatoes in 1912, the total production was not the lowest on record, though it was nearly 610,000 tons less than in 1911.

A Beautiful Colour Combination.—A very charming colour combination that might advantageously be carried out in many gardens was mentioned by Mr. Dillistone, of Messrs. R. Wallace and Co., when lecturing before the Chelmsford Gardeners' Association recently. This was a broad belt of Lavender, interspersed at intervals with groups of pink China Roses. The broad belt could, of course, be modified, the main idea of combining lavender and pink always being borne in mind.

The Pasque-Flower.—In the gardens at Lauriston Hall, Kirkcudbrightshire, may be observed quite a number of fine plants of the Pasque-flower, Anemone Pulsatilla, growing in the ordinary border. It is quite apparent that both the climate and soil suit this Windflower there. The soil is a loamy one, and there is no lime or other calcareous matter in it. The situation is naturally elevated, but the garden lies in a slight hollow, and is inclined to be rather damp and late, this being a somewhat cold part of the Stewartry and known as the "Southern Highlands." It is interesting to see this plant doing so well in such a situation.

Transplanting Laurustinus.—Anyone desirous of transplanting this well-known winter-flowering shrub will find the present time most suitable, and if care is taken, very little check will be given. It is needless to mention that as much soil as possible should be kept on the roots; but if they have been cut to any extent, it is advisable to remove some of the shoots to give the plant a more equal balance. A mulching of manure and occasional syringing, particularly in dry weather, will be found very beneficial. Little pruning is necessary for this shrub when once established, except to keep it in shape; this should be done after flowering.

A Charming Hard-Wooded Greenhouse Plant. Unfortunately, the many showy Australian shrubs which were so popular in glass-houses in this country about the middle of last century have almost disappeared from our gardens, and, with the exception of the Acacias and a few other plants, we rarely see them now. Yet when anyone does produce a well-grown and well-flowered group of these old-fashioned plants there are always plenty of commendatory notices. Quite recently we noted a few excellent examples of Chorizema varium, or C. Chandleri as it has been sometimes called. The plants were 2 feet to 3 feet high, and composed of from six to eight branches each, every branch being divided into numerous branchlets, each one bearing many racemes of the pretty orange and red Pea-shaped flowers.

The Double-Flowered Gorse.—The various groups of double-flowered Gorse which are to be seen about the river end of the Syon Vista at Kew are a good object-lesson as to satisfactory clothing of dry, stony banks, for at the present time they are a wealth of golden blossoms, and will continue showy for several weeks to come. The positions in question are built up with sandy gravel which has been excavated at various times from the lake, and the material is wholly unsatisfactory for the cultivation of many choice trees or shrubs; yet with no particular attention the Gorse grows and blossoms well.

A Pretty Shrubby Aster.—For several weeks past a shrubby Aster has been flowering well in the Temperate House at Kew, where it has been one of the most noticeable of the uncommon plants. The species is A. fruticosus, a native of South Africa, and although grown in English gardens as long ago as 1759, it may now be considered to be practically unknown to the general horticulturist. Forming a plant 2 feet or so in height, the branch system is made up of numerous wiry branchlets, which are clothed with small, linear leaves, and terminated during late winter and early spring with solitary flower-heads half an inch to three-quarters of an inch across, the ray florets being mauve and the disc florets yellow.

Dressing Tulip Flowers.—A fashion has lately sprung up in Holland of dressing the flowers of Darwin Tulips by turning the three outer perianth segments back and leaving the three inner ones standing upright. We are told that the reason for this practice is that the beautiful colouring of the interiors may be seen. This object is partly obtained, but at the cost of the distortion of the flower. We have noticed a few blooms treated like this at the Royal Horticultural Society's shows, and we cannot say they appealed to us. Why torture the poor Tulip thus? Was it not enough to see the wretched Nelumbiums so maltreated last year? It is difficult to improve upon Nature's own way of showing her gems.

Azara microphylla.—This Chilian shrub makes an excellent plant for training against the walls of houses. We do not think its good points when used in such positions are as widely known as they might be. We know a house as far North as Cheshire which is partly covered with this Azara on its south and west aspects. It has been there for about twenty years, and in the hardest winters nothing worse has happened than the blackening of the ends of the longest shoots. As, however, it does not mind the knife, and as it breaks again very freely before the summer is far over, the damage is quite obliterated. It is covered with small, inconspicuous yellow flowers in March or early April, which emit a Vanilla-like scent.

CORRESPONDENCE.

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

The National Daffodil Society.—Our letters in The Garden have acted as a poker; the Narcissus committee has been stirred up and is now blazing away furiously, as you will see from my notes on page 163.—Joseph Jacob.

Gunnera manicata and G. scabra.—When these handsome water-side plants begin to deteriorate, which they will do in course of time, it is a good plan to move them to another place. The best time for the operation is March or early in April. A good piece should be taken from the old plant with as much root attached to it as possible, and carefully planted in some good, rich soil. If possible, a good mulching of cow-manure should be given; in fact, this will be found very beneficial to the plants at any time. Much finer leaves may be obtained if the flower-spikes are removed as soon as they appear.—J. J. P.

Tarragon.—To obtain healthy young shoots of this much-called-for herb, a fresh bed should be made yearly large enough to meet the demand. It is a native of Siberia, and readily multiplied by division, or by pulling up young pieces when about three inches to four inches high and dibbling them about four inches apart in well-prepared beds. Water the soil well if the weather proves dry. There is a plant sometimes grown which greatly resembles the Tarragon. I grew it many years ago, but it was quite destitute of the real Tarragon flavour, and I was obliged to obtain the right kind from a good firm, after which I experienced no further difficulty in maintaining plenty of the true variety.—H. Markham.

Snowdrops in the Grey Moraine.—A remarkably pretty sight here has been a good group of one of the finest of the hybrid Snowdrops at the top of a grey whinstone moraine, at the base of a small wall planted with alpines. This Snowdrop is called Anne of Geierstein, and is one of a set of hybrids raised by a Lanarkshire amateur between Galanthus plicatus and G. nivalis a number of years ago. It is tall, and has large and shapely flowers of the purest white, save where that is relieved by the usual green markings. Against the wall, and at the top of this grey moraine, associated with Saxifrages, Dianthuses and other plants, this Snowdrop is most beautiful among the grey whinstone chips which surface the moraine. We are beginning to see how long a period of grace will be given by the moraine, when we find that many of the bulbs do so well in it. With the earliest Saxifrages, Snowdrops, Scillas, the smaller Narcissi and so forth, the moraine may be a perfect picture in early spring.—S. Arnott. *Dumfries.*

A Beautiful Blue-Flowered Greenhouse Shrub.—Flowers of a bright and attractive shade of blue are always admired, either indoors or out. In the greenhouse blue flowers are not at all numerous, and among the shrubby occupants of this structure Leschenaultia biloba major stands out almost alone. The general aspect of this Leschenaultia is that of a Heath, but the leaves are thicker and more fleshy than those of Heaths. The flowers, which are freely borne in loose clusters at the points of the shoots, are about an inch across and of a lovely shade of blue, somewhat deeper when first expanded than they are later on. This Leschenaultia needs much the same treatment as the greenhouse Heaths, and, like them, it was formerly grown as a specimen plant. It is a native of Australia, as, indeed, are all the other members of the genus. The last exhibitors of Leschenaultia biloba major, at least in quantity, were Messrs. Balchin of Brighton, who at that time had a branch nursery at Hassocks, where there flourished not only this Leschenaultia, but many other almost forgotten hard-wooded plants, all of which grew luxuriantly in the pure air of the South Downs. What is more, the blossoms under these conditions acquired a depth of colouring such as one rarely sees elsewhere.—W. T.

Early-Flowered Indian Azaleas.—A variety of this class of Azalea which has become very popular of late years is Mme. Petrick, whose distinguishing feature is the early season at which it may be had in bloom. It is of good habit, and the flowers, which are freely borne, are semi-double and of a deep rose colour. Where these Azaleas are required early, the merits of this variety must on no account be overlooked. The best of the double or semi-double whites for early flowering is, and has been for a long time, Deutsche Perle, whose blossoms are particularly pleasing when partially expanded, as they are then just like tiny Rosebuds. Another early-flowering variety which has come prominently forward during the present season is J. B. Varonne. It belongs to a section of these Azaleas which has of late years gained many admirers; that is to say, those whose flowers are of a salmon or rosy salmon tint, with a light-coloured margin and, in some cases, a pale centre. In J. B. Varonne the salmon is more pronounced than in some of the others, the result being a pleasing flower. Its most prominent desirable feature is, however, the fact that it blooms earlier than any others of its class.—H. P.

Mr. Lester Morse on Sweet Peas.—I had not intended to address you on the subject of the necessity of tackling the question of Sweet Pea nomenclature, because I was interested to read the opinions of the lay public and wished to see in what direction the trend of opinion might lead. The mention, however, of two of my varieties by Mr. F. Herbert Chapman in your issue for March 15, page 130, makes me think it may be opportune to offer a few remarks. If the floral committee of the National Sweet Pea Society were a strong body, it seems to me that it would be a simple affair to grow all the 600 "varieties" and reduce them straightway to less than 200, and give names by priority of introduction or, in cases of doubt, by lot. With the help of local horticultural societies it would be possible to ensure that these names should be adhered to, and the approved varieties could be grown every year against new challengers. There are various difficulties, but they can all be got over, and I hope to take active steps to institute reform during the ensuing winter. One of the points that arises is that touched upon by Mr. Chapman, viz., with regard to differences, real or imagined, in varieties that to the American eye, and perhaps the casual English eye, look alike, as instanced by Evelyn Hemus and Mrs. C. W. Breadmore. The former would, no doubt, retain the name, having been shown first and given two awards of merit, while anyone having anything that he considered superior to it could describe it as Evelyn Hemus (Smith's or Jones's stock). This would reduce the list for the public, and at the same time enable the seedsman to take credit for his efforts. It can never be possible for any committee to decide between two stocks down to the last decimal point; nor do I think it necessary. For instance, one difference between Evelyn Hemus and Mrs. C. W. Breadmore is that the former does not grow coarse, as the latter does. If, nevertheless, it were decided by an independent body that all cream terra-cotta picotees should be known as Mrs. C. W. Breadmore, I should willingly acquiesce.—Hilda Hemus.

Mazus rugosus.—With reference to Mazus rugosus, for which we were granted an award of merit at the Royal Horticultural Society's meeting on March 4, and which was illustrated on page 130 of The Garden for March 15, we send you the following particulars, as there appears to be some doubt existing as to whether it is a perennial. The plant originally came from the Himalayas, and spreads by means of procumbent stems, which root as they grow. These produce flowers 1 inch in height. The fact that each rooted stem had a flower when exhibited seems to have given the impression that it was a pan of seedlings. When established it literally covers itself with flowers during the early spring months, and also produces a few solitary flowers during the summer, which are of a deep mauve colour, freely spotted orange on a white ground. The plant is undoubtedly perennial. Johnson's "Gardening Dictionary," 1868, describes both M. rugosus and M. Pumilio as hardy annuals, but there can be no doubt that this is erroneous. M. Pumilio is quite a distinct plant. It produces slender underground rhizomes, and the leaves are spatulate, with slightly-waved edges, which are about an inch long. It only produces its flowers during the summer months, whereas M. rugosus, as we have before stated, flowers during the early spring and summer months. We are not quite sure about the date of introduction.—The Wargrave Plant Farm, Limited.

Root-Pruning by Dynamite.—I witnessed an interesting experiment recently which should be of value to fruit-growers. Mr. Robert Holmes of Tuckswood Farm, Norwich, has a batch of healthy, young Apple trees growing upon his strong, loamy soil, but they are growing too luxuriantly and do not fruit owing to their excessive root action. For a long time horticulturists in Australia and Canada and the keen growers of the United States have sought the aid of dynamite in breaking up subsoil for such purposes as planting trees, also for further increasing the fertility of the soil, and in some cases had found the value of this agency for lifting the trees for root-pruning purposes. Mr. Holmes, ever on the alert for something new in the horticultural world, had come across this method and decided to become proficient in the use of the explosive. On the occasion referred to, thirty-two trees were lifted bodily. It may seem rough treatment to the trees, but where a large number have to be done, time and labour count for much, and, furthermore, observations have proved that the plan answers just as well as the methodical way of digging round and cutting under the tree. The method adopted is to bore with a stout crowbar a hole about fifteen inches from the trunk to a point about two feet six inches deep, in a slanting direction, to about the centre of the tree. A cartridge with a long fuse is then inserted, and the hole filled up and rammed hard. A light is then applied, and the operator has ample time to move away, just a few feet being sufficient. At the explosion there is an upheaval of the soil, and the thick roots are torn asunder. It is then the work of a very few minutes to adjust the soil and make it firm again. One could see that the force of the explosion descended as well as ascended. The whole operation of lifting thirty-two trees took less than an hour.—Aytch Pea.

A Useful Greenhouse Plant.—Among stove and greenhouse berried plants, Callicarpa purpurea occupies a foremost place, the berries being numerous and bright, glossy, deep violet in colour. It is usual to cut the old plants back in spring and start them into growth, and when the young shoots are 1 inch or 2 inches long they may be taken off as cuttings, but only those with short joints ought to be chosen. When rooted, pot off in 2½-inch pots, using the usual compost, and placing them in a temperature of 65° Fahr. Pinching back the shoots must be practised till August and all flower-buds removed. Good fruiting specimens may be obtained from pots 6 inches and 7 inches in diameter, and they must not suffer from lack of moisture, or red spider will appear. Plenty of light and air is essential, particularly after they are permitted to flower, and during this stage an occasional shake of each plant will help to secure a good crop of berries.—S.

A Beautiful Early Crocus (C. biflorus).—This Crocus, frequently flowering towards the end of January, is a charming harbinger of spring, sending up its beautiful silvery white cups from between the very narrow, conspicuously striped and somewhat lax leaves. The buds as they rise are slender and graceful, while the rich feathering on the outside of the petals (appearing at first glance to be dark brown) proves upon close examination to be rich purple, which colouring sometimes tips the petals also. The central zone of the flower is rich yellow, as are the three stamens, while the stigmata, as in so many species of Croci, are of an intense shade of orange. Frequently the petals are semi-transparent, so that the dark feathering shows through them when, under the influence of a sunny day, the flowers open wide. The corms appear to thrive in sandy, fibrous loam, though I generally add a little leaf-mould and grit to keep it open, my soil being rather heavy. As the corms are cheap—merely 7d. per dozen—there is no reason why they should not be extensively employed in the rock garden, where the flowers give a delightful touch of brightness during the dull winter days.—REGINALD A. MALBY.

AN EARLY SPRING CROCUS (C. BIFLORUS) IN A GARDEN NEAR LONDON.

FORTHCOMING EVENTS.

April 1.—Royal Horticultural Society's Meeting and Exhibition at Vincent Square, Westminster. Lecture at 3 p.m. by Mr. Arthur W. Paul on "The Literature of the Rose." Horticultural Club's Meeting. Scottish Horticultural Association's Meeting. National Amateur Gardeners' Association's Meeting.

April 2.—Royal Horticultural Society's General Examination in Horticulture. North of England Horticultural Society's Show at Liverpool (two days).

April 3.—Linnean Society's Meeting. Huntingdonshire Daffodil and Spring Flower Show.

April 4.—Kingsbridge Daffodil and Spring Flower Show.

April 5.—Société Française d'Horticulture de Londres Meeting. New York International Flower Show (eight days).

ROCK AND WATER GARDEN.

ANNUALS FOR THE ROCK GARDEN.

A ROCK garden or rock path is a charming sight when well furnished, providing rock or stone of suitable colour is used and the permanent subjects planted to cover it are carefully chosen and rightly placed. However, as it is some time before the plants will cover their allotted spaces, during the first year or two one must have recourse to quicker-growing subjects. There are so many annuals now, both dwarf and tall, which may be used that they are indispensable, and I am sure, when once seen, will be looked for again. Many may be sown in the open, others are best sown under glass and afterwards transplanted, and of these latter I will give a selection. There are, first, the Ageratums of soft blue, lavender and white, ranging in height from 4 inches to 18 inches; Abronia umbellata (the Sand Verbena), rosy pink and of trailing habit. Then comes the annual Alyssum, Snow Carpet or procumbens, which should be planted in good masses to produce the best effect. Seed of this may also be sown where the plants are to bloom. The individual plants spread out very quickly and remain in bloom a long while. The flowers are very minute, but produced in the greatest profusion. To go from white to scarlet, there is Alonsoa Warscewiczii compacta, which is the best. Planted in soil that is not too rich, it will not grow too tall and will flower more freely.

The Useful Snapdragon.—The next we come to are the Antirrhinums of the dwarf and intermediate sections. Though not true annuals, they are usually treated as such. They have been much improved as regards colour and form of late years and there is now plenty of variety. The dwarf forms may be planted in masses of one colour, and should be given a bold position, when their beauty will be much enhanced. The intermediate varieties, which grow about eighteen inches high, may be used in the same way. The Antirrhinum is not particular as to soil, therefore may be planted where more fastidious plants in this respect would fail.

Annual Larkspurs and Pinks.—Delphinium Blue Butterfly is very pretty, and should be sown early to obtain the best results. This should be given good soil in a position where it will not get too dry, and it will then present its true character. It is one of the best blue-flowered annuals we have, and will flower over a long period. Then come Dianthus chinensis, or Indian Pinks, which are really biennials, but if sown early and treated as annuals, make lovely pieces of colour. Salmon Queen, The Bride, laciniatus, Queen of Holland and Eastern Queen are all good varieties of different heights. The Nemesia is quite at home in the rock garden. It enjoys plenty of sun, and its roots should be kept moist and allowed good soil to grow in. The flowers are of all shades of yellow, red, cream, pink, and white, and seen under strong sunlight are most gorgeous. There are now some new hybrids of a lovely pale blue, and another of pale lemon colour. These are dwarf in growth, and I should say would be very useful.

Another beautiful little plant is Phacelia campanularia, of a lovely deep blue. The flower is something like a blue Gentian, both in colour and form, and produces a striking effect, however planted. The foliage also turns a pretty shade with age. The next on my list is the Portulaca, a half-hardy annual especially suited for rockwork gardens, and one that will thrive in a dry, sunny position, where it will be seen at its best. It

quickly covers the ground, grows about six inches high, and the colours are various shades of orange and yellow.

The Silenes are very pretty, and should be sown in the summer and transplanted to bloom in the spring. They are very dwarf, seldom reaching more than 6 inches high, and prefer soil not too rich and an open position. Empress of India has crimson flowers and flower-stalks. Snow King and pendula alba are two good whites, and pendula compacta and Double Pink are two first-rate pinks. The latter is a very showy plant.

Although Statices, the next on my list, are mostly perennials, there is one exception, Statice Suworowi, a plant of singular appearance. The foliage looks something like a Dandelion leaf, and the flower-spikes are thrown up from the centre. The colour is rosy pink, and the individual blossoms are very minute, packed closely together on stalks about eighteen inches high.

THE SHAGGY PASQUE-FLOWER (ANEMONE VERNALIS) IN A SOUTH WOODFORD GARDEN.

Sowing and Thinning.—I will now name some that may be sown where they are to bloom, and with proper attention to sowing, thinning and keeping clean will produce equally as good results as those that are raised under glass and planted out. The great thing with all annuals is to thin them out sufficiently, according to the kind, and give them every encouragement afterwards. I first mention the Pimpernel, or Anagallis, to give it its proper name. There are two colours, pale blue with a black blotch in the throat, and a brick red shade with the same markings. They remain in bloom a long time, especially if the faded blooms are kept picked off. They should be given a warm, sunny position, or the flowers do not open well.

Another effective plant is Cacalia coccinea, the Tassel Flower. This grows about a foot in height, and has flowers like a double Daisy on slender stems. The foliage is very luxuriant and of a nice green shade. It is a plant that is always noticed by reason of its very bright colour. Then come

The Candytufts, which are so free-flowering and sweet-scented. There is the White Spiral, which grows about a foot high, and also lilac, purple, carmine, crimson and cardinal, which are somewhat dwarfer. All are very beautiful, and should be sown in good-sized patches of one colour. Pick the faded flowers off, and stir the soil occasionally to promote new growth.

Dimorphotheca aurantiaca is a decided acquisition. The colour is a rich orange, with a black disc, and the flowers are little affected by the weather, although the plant is at its best when warm and sunny, and the flowers also open better. The various coloured hybrids should also be included. Another pretty plant is Ionopsidium acaule, the Violet Cress, a tiny thing covered with little lilac-coloured blossoms. It is admirable for sowing in narrow crevices between the stones, and should be kept moist at the root, or it is apt to shrivel up. It does not grow more than 2 inches high, and does not spread like many dwarf plants. Then come the Linarias or Toadflax, indispensable little plants. Aurea reticulata is crimson and gold, and bipartita splendens is purple and light blue. Both grow about a foot high, and should be sown thinly and not thinned out too much, as they are very slender in growth. The blooms are very small and something like a miniature Antirrhinum. I consider them among the prettiest of our dwarf annuals. Linum grandiflorum rubrum is a dark shade of red, as the name suggests, and is very nice in contrast with some of the lighter-coloured flowers. Then the

Dwarf Nasturtium deserves a place, and is another plant that flowers better in soil that is not too rich, and also in a dry season. Two or three sowings should be made to prolong the season. The flowers are all shades of yellow, crimson, scarlet and rose, and some are spotted and veined with deeper markings. Some have golden foliage and others are silver variegated, which produce a fine effect even if they never flower. The next that claims attention is the Nemophila, a most attractive plant when in bloom. The colours are very pleasing and dainty. Insignis is a Cambridge blue; i. alba, white; maculata, white, with purple blotch; and atrocærulea, bright blue, with small spots. They all grow from 3 inches to 6 inches high and are very hardy. Two or three sowings at intervals should be made, as the plants do not last so long as some annuals. They may also be sown in autumn to bloom the following spring. Saponaria calabrica is an annual of rose colour, and there is also a white form. Both are old favourites with many. They are both very dwarf, and may be used in the front portion of the rockery. I conclude my list with the Swan River Daisy (Brachycome), a flower very much like a small Cineraria stellata. From a mixed packet of seed one may get many shades, or they may be purchased in separate colours. It should have fairly good soil, and be well watered if the weather is dry. The foliage is very light and pretty, and the plants grow about a foot or even less in height. It remains in bloom a long while and, though last, is certainly not the least of those I have mentioned. There are many more that I could name, but those I have mentioned will be found very useful and add greatly to the beauty of the rock garden.

R. W. Thatcher.

The Gardens, East Carlton Park, Market Harborough.

THE SHAGGY PASQUE-FLOWER

(Anemone vernalis.)

Of the many members of this lovely family, none appeals to me so forcibly as A. vernalis, the Shaggy Pasque-flower. As the snow recedes from the highest alpine pastures, leaving the ground sodden and black with the previous season's decaying foliage, there rises from a few prostrate, deeply-divided leaves a beautiful bud covered with brown silky fur. When this opens there emerges a dainty, somewhat Crocus-like, Anemone flower, white or pale pink in colour, flushed with amethyst, supported on a shaggy stem rarely more than 1 inch or 1½ inches high. After pollination the petals and calyx again close over the vital organs, and, the stem elongating, allows the embryo fruit to assume a pendent habit. In our gardens this dainty Windflower has rather a bad reputation, since (as it is one of the first to open its blossoms in the mountains—frequently being in full flower within a few feet of the receding snow) it is very apt to attempt to throw up its blossoms during one of the many mild or soft intervals which characterise our winters, when, of course, it promptly mildews off, not infrequently infecting the whole plant. I have found that it grows very satisfactorily in my moraine. This Anemone is easily raised from seed, and I now have several plants showing flower-buds, the seed of which was sown in February, 1911, a satisfactory result when we consider that many Anemones take several years to come to maturity.

Reginald A. Malby.

THE EDELWEISS.

(Leontopodium alpinum).

This very popular alpine may be grown satisfactorily in a lowland garden, providing that congenial surroundings can be found for it. In the first place it is necessary to find a suitable niche in the rock garden—the position should be exposed, for anything in the nature of heavy shade from trees is very harmful to the Edelweiss. The soil should be of an open sandy nature, for a heavy adhesive soil, where moisture is likely to collect, would only be followed by disastrous results.

THE GREENHOUSE.

A CHARMING COOL GREENHOUSE PLANT.

(Calceolaria alba.)

Although discovered in Chile so long ago as 1844, this pretty plant is seldom met with in our gardens. I must confess to never having seen it until a year or two ago, when an amateur friend gave me a few cuttings to root for him. This I did; but when my friend discovered that this Calceolaria required greenhouse treatment he had no use for it, so I secured the lot, and a really handsome and useful plant it has proved. Like all Calceolarias, it requires very little artificial heat; indeed, the cooler it is kept the better it appears to thrive. After the cuttings are well rooted they should be pinched to induce a bushy growth and be grown steadily on. A compost of good turfy loam, leaf-mould and sand suits them admirably; but the addition of a little well-rotted manure and bone-meal is an improvement. The flowering pots need not be larger than the 6-inch size. Moderately firm potting seems desirable. After the pots are well filled with roots, an occasional soaking of weak liquid manure, or Ichthemic Guano in water, is very beneficial. Slender stakes about eighteen inches long must be provided in good time, and the shoots lightly tied to these. Like all the members of the family, this variety is very liable to be attacked by green fly. It is well, therefore, to vaporise occasionally to keep these pests in check.

Coming into bloom in July, the plants continue in full beauty for three months at least, and even on November 23 last there were a few nice blooms left. It is a plant that claims attention at once, as it is so unlike any of the other inhabitants of the cool greenhouse. Every visitor here last summer was interested in it, and not one knew what it was. The foliage is light and graceful, and not at all like any of the herbaceous or shrubby kinds usually cultivated in our gardens. When out of flower, several people have mistaken this Calceolaria for the perennial Alonsoa. The foliage is, indeed, very similar in size and shape, but the Calceolaria when touched has the sticky feeling of Diplacus glutinosus. The flowers are pure white, small in size and borne in graceful sprays on wire-like stems. They are excellent for cutting, and altogether it is a very desirable plant. C. Blair.

Preston House Gardens, Linlithgow.

ASPARAGUS SPRENGERI.

If seedlings are transferred at an early stage to 4-inch pots, it is surprising what nice little bushy plants they make before any very long shoots are formed. We have seen these used very effectively for corners of dinner-tables and on small tables in drawing-rooms. They remain a considerable time in this small state, and, being easily raised, seed may from time to time be sown to provide succession.

THE FLOWER GARDEN.

PRICKLY PEARS IN THE OPEN AT CAMBRIDGE.

Not the least interesting feature of the famous Botanic Gardens at Cambridge is the large colony of Prickly Pears, or Opuntias, that for years have been established in a sunny position near to the range of glasshouses. Opuntia robusta, a particularly well-named species, seen in the foreground of the accompanying illustration, has so far grown beyond bounds that it would be an extremely difficult task to enter by the greenhouse door, even if one wished to do so. The flat, more or less circular branches, studded with spines, are from 1 foot to 1½ feet across. The plants are literally growing wild, and just revel in their warm, sunny position outdoors. The less formidable but equally rampant Prickly Pear spreading over a wide area in the background of the picture is O. cantabridgiensis, the origin of which is unknown. There are many and diverse forms of Opuntia in this collection, and among others might be mentioned O. arborescens, a native of Mexico, said to attain a height of 20 feet to 30 feet at its southern limits, but so far of dwarf dimensions at Cambridge; and O. monocantha, the One-spined Prickly Pear, a native of Brazil.

PRICKLY PEARS OR OPUNTIAS GROWING OUTDOORS AT THE CAMBRIDGE BOTANIC GARDENS.

It might be mentioned that the illustration was prepared from a photograph taken only a few days ago, the plants having wintered in the open.

The economic uses of Opuntias are varied. The fruits, known either as Prickly Pears or Indian Figs, are edible. Some species are grown in warmer climes as food for the cochineal, while others are appropriately used for hedge-making.

CARDINAL'S FLOWERS.

The tall perennial Lobelias have much of interest in their history, and a certain degree of mystery attaches to the varieties at present cultivated, hybridists having so mixed the progeny of species that it is impossible to unravel their pedigrees. Those which I cultivate were selected from seedlings of many colours, the deep crimson ones alone being retained. So early as 1629 Lobelia cardinalis was cultivated in England, the stock having arrived *viâ* France from Canada. It was then known as "Trachelium americanum flore ruberrima sive Planta Cardinalis, the rich crimson Cardinal's Flower." In 1665, Rea incidentally mentions the introduction of L. syphilitica in these words: "There is another of this kind (which lately came from Virginia) with blew flowers"; and it is worth while noting that the early authorities called the plant "Cardinal's Flower" and not Cardinal Flower, as we do to-day. Valuable additions were obtained in L. fulgens in 1809 and L. ignea in 1838 (see Paxton's "Magazine of Botany," Vol. VI.), the flowers of this being blood red and the leaves coloured. A writer in Harrison's "Floricultural Cabinet," in which the flower is also portrayed, recommends the stems to be stopped to induce a bushy habit, which might do for pot culture, but would inevitably retard the production of bloom out of doors. The name Lobelia, it may be added, was bestowed upon a stove shrub now called Scævola Plumieri, by Father Plumier, which was introduced by Catesby in 1724. Though one of the most glorious of all autumnal flowers, it is seldom seen at its best, and in the majority of gardens one visits it is never seen at all. It is too true that it is sometimes a difficult plant to preserve over the winter, a fact recognised by Rea, who gives very good instructions for its preservation. But by consistent attention to a few details, losses

may be reduced to a point not worth taking account of. Warmth is inimical to the plant in winter, for, though not hardy enough to stand every winter unharmed in the open, it is at least sufficiently hardy to be preserved in a cold frame. The plan I have practised for many years is to lift each plant with a ball of soil, packing the plants close together in 4-inch-deep cutting-boxes, which are afterwards arranged in frames and deeply covered with dry, flaky leaf-soil. In very frosty weather a further covering of dry straw above the leaf-soil is sufficient to enable them to withstand the winter.

Propagation is effected by division in spring, when the boxes are transferred to one of the plant-houses, the bulk of the leaf-soil removed, and the plant, for the first time since being lifted, watered, and afterwards given moisture as required. Division does not take place till growth is well advanced, when each piece contains three or four growths, and is replanted in an open rich compost in other boxes, in a week or so being again transferred to cold frames, and finally planted about the end of April. A highly manured soil, with summer mulchings, is essential to success. Equally important is the way the plants are arranged, which should always be in masses. Single-stemmed pieces planted widely apart can afford no good idea of the decorative value of the plants; therefore, when grouped by themselves, they should almost touch each other. That is the way I use them in mixed borders. But for the best decorative effects they must be arranged in large beds or borders with other suitable plants. In the present year I shall use about 1,500 plants in large oblong beds, mixed with Centaurea Cyanus to a width of about 6 feet, with Tritomas and blue Stock-flowered Larkspurs behind. Last year, in an arrangement that gave much satisfaction, the Lobelias were thickly dotted as an under-ground to heavy masses of the same Larkspurs in batches of five, which formed pillars 7 feet in height. A few tall yellow Antirrhinums were also introduced, with a dwarf mauve Ageratum filling any odd vacancies. Where many cut flowers are a necessity, a portion of the stock should be grown for the purpose of providing material to cut. The flower-spikes cannot be surpassed for richness of colouring, and few things last better. Very brilliant flowers for table decorations have been condemned, but not everybody disapproves of strong colours, and for this purpose, too, the flowers are greatly valued. In fact, there are a great many uses to which these brilliantly-coloured flowers may be put, both in a growing and a cut state, and it is difficult to understand why they are not more extensively grown. They are well worth taking some pains over, and are sure to be highly appreciated if grown to anything like perfection.

Prestonkirk, N.B. R. P. Brotherston.

A JULY BORDER.

The portion of flower border shown in the accompanying illustration is in the garden of Mr. Walter Jesper, Beechwood, Menston-in-Wharfedale, Yorkshire, who kindly sent us the photograph and the following notes: "The photograph was taken when the border was at its height of beauty, *i.e.*, about the second week in July. The flowers just showing at the bottom right-hand corner are Campanulas. High above them is the splendid Delphinium Reynaldo. Between this and the Cupressus is the beautiful creamy Delphinium Beauty of Langport, which shows to great advantage against the dark foliage behind. Just below is a young plant of D. Belladonna, in front of which rise the handsome, tall leaves of Iris Monnieri, not yet in bloom. Below this is a spike of the white Mallow, while on the stone edging are Saxifrages and the charming little Campanulas pusilla and pusilla alba. In the centre of the picture, just to the left of Delphinium Beauty of Langport, are the graceful spikes of Anchusa italica Opal. Beyond is an old-established plant of the early-flowering white Phlox, and near the edge of the border is a group of Veronica spicata alba. Further groups of Delphiniums are seen in the background. Altogether, the effect of this long border (some 12 feet wide) in what we call our 'blue fortnights' in July is one that lingers long in the memory, even when winter is upon us."

A MIXED BORDER IN A YORKSHIRE GARDEN, FROM A PHOTOGRAPH TAKEN IN JULY.

AN INTERESTING EASTER FLOWER.

(Fritillaria Meleagris.)

Fritillaria Meleagris, commonly known as the Snake's-head Fritillary, is one of the gems among British plants. There are a few places in England where it may be seen growing freely, particularly in the meadows round Oxford, where children gather the flowers in large bunches as a rule about Eastertide. It also occurs among the rich limestone pastures of North Wilts, where the flowers are called Toads'-heads by the natives. Near to the village of Oaksey are two or three meadows, where it can be seen in magnificent profusion. Concerning Fritillaria Meleagris in this particular neighbourhood, it is a source of wonder to the natives that the colony is on the march, ever moving, though but slowly, in an easterly direction. A most interesting article on this subject by a correspondent, "F. J. F.," appeared in The Garden, July 29, 1911, from which we take the following: "As regards the gradual eastward march, I have a very respected relative who has lived continuously in that village the whole of her life, something over ninety years. Within her memory the Fritillarias have moved across several fields. I cannot help thinking that three or four centuries ago the original stock was planted in the gardens attached to Malmesbury Abbey, fostered there by those monks to whom we owe the preservation of so much. As in course of time the Abbey, with its gardens, fell into decay, so these flowers, in accordance with the direction of the wind at the time the seeds were ripened, sowed themselves on their eastern front, while the old bulbs on the western rear gradually died out. My theory may be wrong, but it is very feasible, and certainly is able to account for this isolated colony of a very rare and very beautiful native flower."

There are many beautiful varieties of this subtle flower, one of the finest being that named Emperor, illustrated on page 159. There is a belief among country folk that no one can successfully transplant the Snake's-head; but this, no doubt, is the result of lifting when in flower, which would, naturally, end in disastrous results. The bulbs may be removed with impunity in August, and will thrive in the border or the rock garden if given congenial soil.

As pot plants, with several bulbs in a pot, the varieties of F. Meleagris are exceedingly dainty. Moreover, they may be grown in bowls filled with fibre, in much the same way as Hyacinths, Daffodils, Tulips, or Crocuses, that are now so extensively grown as room plants. We have quite recently seen some excellent bowls of Snake's-heads, but the bulbs require very careful treatment when grown in this manner.

ROSE OLD GOLD.

COLOURED PLATE.

PLATE 1468.

ROSE OLD GOLD.

THE wonderful colours, or blendings of colours, we are getting in our modern Roses were certainly never dreamed of by Rose-growers of years ago. In the *Florist* of October, 1855, the late Thomas Rivers wrote: "One almost fears the point of perfection has been attained, and that no better Roses than those we now possess can, or will, be originated." Whether Mr. Rivers referred to form, colour, or vigour one does not know, but surely all three attributes have been vastly improved since those days. Even as far back as twenty years one would not have ventured to prophesy that we should be having such colours as raisers are now giving us. Certainly one of the most delightful will be the Hybrid Tea Old Gold, the splendid production of Messrs. S. McGredy and Son. As I saw it at Portadown last July it was truly marvellous, and I was not surprised to find that this variety secured for the lady decorator the first prize for a table display. It was thought, when the same raisers gave us Mrs. Alfred Tate, that they had scored a triumph, and now we have Old Gold, which seems to be a replica of Mrs. Alfred Tate in all save colour; in fact, I think I am right in saying that the latter Rose was one of its parents. That it will be a popular garden Rose is already assured, and I predict for it a great success.

Where these raisers are obtaining these glorious shades is a mystery. Of course, they have, as all raisers have, their own "bloods," and I fancy they have still more wonders in store, for I question if there has ever been seen a house of Rose seed to equal that at Portadown last year. Fancy one house 90 feet long containing plants carrying some 7,000 cross-fertilised pods of seed. Upon one plant alone I saw some 300 pods, all tallied, and this plant, a seedling, had already produced Roses for its owners that had gained four or five gold medals. This firm has some of the most glorious canary yellows I have ever seen. One or two especially took my fancy, for the flowers were produced on stems as rigid as a Mrs. Theodore Roosevelt, and all who have much to do with bedding Roses know what a valuable trait this is in a Rose. I only hope Messrs. McGredy will not keep us waiting long for them, and I almost wish they would send out a dozen novelties every year, although our collection now is so embarrassing. I am not one of those who bemoan the influx of novelties, providing they are really good and an advance upon existing sorts. By all means let us encourage them in every way we can. Some old-fashioned florists may repudiate these newer artistic Roses and say they are wanting in form and substance; but I know which are most popular with the general public, and these are the decorative kinds, of which Old Gold is a beautiful example.

DANECROFT.

THE ROSE GARDEN.

THE PRUNING OF ROSES.

(*Continued from page* 144.)

HYBRID PERPETUALS.

HYBRID PERPETUALS are generally nice, easy subjects to prune, and it is perhaps possible to grasp the general principles of pruning dwarf plants more readily with them than with most other groups of Roses. It is, therefore, worth while to consider their pruning rather carefully. It should be taken in hand during March, and in the writer's opinion the earlier in that month the better, and even the end of February may often be convenient if there are many to get through; but this view is not accepted by all rosarians. However this be for reasons which will appear later, the earlier in the year we prune these Roses, the harder they may safely be cut back. Whether we desire our flowers for exhibition or for our own enjoyment in the garden, there should not be any very great difference in our treatment of the plants, for in the case of Hybrid Perpetuals the object in view will, in both cases, be the production of well-shaped specimen flowers. The difference in treatment between these Roses when grown for exhibition flowers and for the garden will generally occur later on, when the thinning out of the superfluous shoots takes place in May. The best course to pursue in pruning will be most simply shown if we consider first the effect of pruning these Roses too little, and then of pruning them too severely.

As is well known, the Hybrid Perpetuals have two flowering periods in each year, each flowering being preceded by a period of growth, the first taking place in spring and early summer, the second, in late summer, ultimately carrying the autumn flowers. The effect of leaving the stems too long at pruning-time will generally be that one or two buds at the top of the pruned stem will grow out and produce flowers, and, besides this, sometimes in the first growing period, but more often during the second period, the third, fourth and occasionally the fifth bud from the top will break and form shoots; but the lower buds and the invisible or dormant buds at the base of the plant will not grow either in the first or second growing period. This effect and mode of growth may be traced in the left-hand branch of the plant shown in the illustration (Fig. 1) of a Hybrid Perpetual before pruning. This method of pruning may often be noticed in old-fashioned gardens. Its disadvantages are, first, that it does not allow of the replacing of the old wood, basal shoots being seldom produced; and, secondly, the growing and flowering parts of the plant in a course of years gradually rise further and further from the roots.

Turning now to the opposite extreme, where the pruning has been too severe, we may perhaps find a single shoot only starting from the cut-back shoot of the previous year, and, this being insufficient to absorb the sap sent up by the roots, the dormant buds at the base of the plant are forced into premature growth and push up strong, sappy, basal shoots, called by the Americans "watershoots" and by the French "gourmands." They usually occur on the same side of the stem as that on which the bud was originally inserted, and absorb the energy of the plant, to the detriment of the higher and more useful branches.

It is probable that in most cases the best flowers are obtained when only two of the buds on the young stems of the previous year are allowed to develop in the first or summer growth, and they should be as near to its base as practicable; but the cutting back should not be sufficiently severe to induce the dormant buds in the collar of the plant to take part in this first growth. These basal shoots, however, will generally develop in the course of the second or autumnal growth.

A BEAUTIFUL SNAKE'S-HEAD FRITILLARY, FRITILLARIA MELEAGRIS EMPEROR.

It is true the autumn flowers on these particular basal growths may often be poor, but they will not be the only flowers, and if the stems have been formed early enough to ripen well, they may be retained and utilised for the production of the flowering shoots of the following spring, the old and now branched stem which had produced flowering shoots the previous summer being cut right away. But it is often well to retain one or two of the best of these old stems.

By following this method we practically work each stem on a two years' system, and the renewal of the young wood becomes continuous. We may now see why it is that the later in the season pruning is deferred, the more buds should be left on the stems, and, conversely, the earlier we prune, the harder it is safe to cut back. Although the great bulk of the food supply comes from the leaves, yet early in the year, before these have developed, the material for the formation of the early growth must of necessity come from the reserve material stored in the roots and carried up by the rising sap. Early in the season the flow of sap and reserve material is not great, and if the plant be then pruned hard back, though only a few visible buds are left, yet these will slowly develop without starting the dormant buds in the first growing period. Not so, however, if the same course be pursued later on in the season, when the flow of sap and reserve material is in full swing.

The system indicated above may seem simple enough to read of, and so it is in practice with free-growing Hybrid Perpetuals which readily make ripened shoots in their second growth; but they do not all do this, particularly the weaker-growing varieties, such as Duchess of Bedford and Prince Arthur. Some of these plants will often fail to push up any young basal shoots at all, or such shoots as are produced in this way may be sappy, unripe and quite unreliable. What is the pruner to do then? Dogberry charged his watch to bid any man stand in the Prince's name. "How if a' will not stand?" said the watch. "Why, then," answered Dogberry, "take no note of him, but let him go . . . and thank God you are rid of a knave." Many a good man before and since Dogberry, when dealing with a subject, whether animal or vegetable, which declines to act in the manner expected of it, has found no better answer than Dogberry's. Here, in fact, the pruner's art, his experience and judgment come into play. The plant may be healthy enough, but it has perhaps been neglected, and he must consider how to restore it for the production of useful new growths. It may be sufficient to prune the plant to one or two eyes of the last summer's growth, or the shoots may be left longer and partially bent or pegged down; or, again, pruning may be deferred somewhat later than is usual, so that the sudden check may induce it to break back. In the case of Roses that have been freshly planted in the previous autumn and do not seem to have come through the winter well, it is often policy to delay pruning somewhat beyond the ordinary period. Everything must be done to promote new growth, and, in particular, that from near the base of the plant, while if, when all has been done for this end that is practicable, success does not result, then take Dogberry's advice and let him go, to make way for a better plant.

1.—A HYBRID PERPETUAL ROSE BEFORE PRUNING.

In cases where strong-growing Hybrid Perpetuals, such as Frau Karl Druschki, Hugh Dickson and Commandant Felix Faure, are grown in isolated beds and the long, autumnal growths are objected to, it is sometimes advisable that the growth of the previous year should be left longer than usual, something, in fact, like the plant shown in Figs. 1 and 2, in order to check this tendency to form basal shoots; and some even go so far as to lift the bushes and replant every autumn with a similar end in view.

There are also a few Hybrid Perpetuals, mostly of recent introduction and single-flowered or nearly so, at least with rather small and numerous flowers, such as Maharajah, Commander Jules Gravereaux, Ards Rover and, if it can be included here, Gloire des Rosomanes, where the production of a large quantity of bloom is of first importance, and here, again, very little pruning is necessary; in fact, it may be confined to thinning out old shoots which have already flowered, where necessary, to give room for younger shoots to develop.

Let us now turn for a moment to the illustrations. Fig. 1 shows a rather vigorous Hybrid Perpetual before pruning, and Fig. 2 is the same plant after

2.—THE SAME BUSH AFTER PRUNING. THE PLANTS WERE LIFTED AND POTTED FOR CONVENIENCE IN PHOTOGRAPHING.

the operation has been performed. Taking the stems which remain after pruning in order from the left No. 1 is an old stem on which two shoots of the previous year have been retained. As this old stem is to be kept, one or two buds of the young shoots from it must also be retained. Next comes No. 2, a young, vigorous stem; No. 3, another old stem with two young shoots; No. 4, a vigorous young growth; and No. 5, pointing towards us, a rather less robust young shoot. For strong growers, such as Frau Karl Druschki, Duke of Edinburgh, or Hugh Dickson, this amount of pruning would be about right; but with the majority of the Hybrid Perpetuals it would be better to shorten still further. In the case of a variety rather less vigorous than those named, such as Victor Hugo, Nos. 2 and 4 should be shortened to about half the length shown, choosing, of course, an outward pointing bud for the top one retained. No. 3 might be removed altogether, and No. 5 shortened by about one-third of the length shown in Fig. 2. It would probably in any case be necessary to leave No. 1 in order to keep the plant nicely balanced, but not more than three good buds should be left on each of the two young branches.

But whichever mode of pruning is adopted, something yet remains to be done. There is the end of a stump left in the middle of the tree, and two stumps may be seen at the base. If these are left, they will only die, and perhaps lead to the introduction of disease. They must be pared right away with the pruning-knife, often an awkward job, and the wound painted over with some styptic, such as knotting or priming paint. This styptic may also be applied to the cut tips of the branches.

I have dealt with the Hybrid Perpetuals at considerable length, because the theory of the operation is more readily grasped with Roses of this class than with any others. In my next article I propose to apply this method to the Hybrid Teas, Teas and Chinas. The pruning and training of the multifloras and wichuraianas should have been finished before January was out, and the rugosas are usually pruned in February, so I do not propose to deal with them at present. WHITE ROSE.

(*To be continued.*)

GARDENING FOR BEGINNERS.

ANNUAL FLOWERS WITH CLIMBING HABITS.

THE value of climbing annuals for quickly covering bare fences, clothing ugly corners, or hiding up any unsightly object in the garden can hardly be overrated. Speaking generally, the cultivation of climbing annuals is simplicity itself. The spring-sown seedlings grow rapidly, and beyond an occasional tie or a little care in training the shoots, very little attention is required.

Foremost among the climbing annuals must be mentioned the ever-popular Sweet Pea, but when grown with the idea of forming a screen it is advisable to select those varieties known to be strong growers and to avoid particularly those of salmon shades, such as Henry Eckford, that are not of robust habit.

Although not usually grown as an ornamental subject, the Scarlet Runner Bean forms one of the most effective annual screens that can be desired. The beautiful orange scarlet flowers are by no means appreciated as they should be, and here it might be mentioned that the colour of the Scarlet Runner flower was long sought after by raisers of new Sweet Peas.

The Morning Glory (Convolvulus major) is another easily-grown subject that commands admiration, especially when the flowers are seen at their best. Its uses as a climbing annual are manifold, and in the accompanying illustration it is shown clothing what would otherwise have been a bare and by no means beautiful lamp-post. For such a purpose there is nothing to excel the Morning Glory, as it is a rapid grower and attains a considerable height, while it readily entwines itself around strings arranged from the ground to the top of the lamp-post. The Morning Glory, however, is none too hardy, and seeds should not be sown before April.

One of the most popular of climbing annuals is undoubtedly the Canary Creeper (Tropæolum canariensis). This, again, is none too hardy, and the most satisfactory way of growing it is to sow the seeds in frames in April, afterwards transplanting the seedlings to their flowering quarters. Its hardier relative, the common Nasturtium in climbing form (Tropæolum majus), is everyone's plant so far as cultivation goes. It should, however, be grown in a poor soil in preference to a rich one. If the soil is heavily manured, the plants will grow apace and make an overabundance of growth and green foliage; but one may look in vain for the flowers. Indeed, most annuals give better results on a poor or moderate soil, the Sweet Pea being a notable exception.

Although not an annual in the strict sense of the term, Cobæa scandens is grown as such in many gardens in the South. In one of the London parks the writer has often seen this handsome climber used for clothing dwarf trees or shrubs that may have died from some cause or another. By utilising a climber in this way, bare gaps in the shrubbery may be avoided. Cobæa scandens and its variegated form are most often met with as greenhouse or conservatory roof climbers, and when grown under congenial conditions the plants are of perennial duration.

A LAMP-POST CLOTHED WITH ANNUAL CONVOLVULUSES BY A CARRIAGE DRIVE.

Eccremocarpus scaber is another very useful climber. It is particularly suitable for arches and pillars, where its orange flowers are seen to perfection.

Neither must we omit to mention the Japanese Hop (Humulus japonicus variegatus), which should be sown without delay for the coming season's display. Finally, we mention the ornamental Gourds, in diverse and fantastic types. These have come very much to the fore in recent years, and are specially suited for growing singly up stout Larch poles.

A very simple arrangement for growing climbing annuals is to fix three stakes in the ground in the form of a triangle, securely binding them together at the top to form a tripod. Such climbers as Convolvulus and Canary Creeper look very pleasing when grown in this way.

COLUMBINES FOR SHADY BORDERS.

AMATEURS are often unable to satisfactorily fill shady borders with flowering plants. The above-named plants are very suitable, as both the foliage and flowers come so fresh when developed in light shade. Furthermore, the plants are splendid for growing in damp borders, providing the soil is well drained. By damp borders I mean those that are low-lying, and in which moisture collects regularly in consequence. The ordinary Aquilegias, or Columbines as they are often called, cast their seeds, and the resultant seedlings spring up and thrive amazingly; but the rarer varieties require much more careful treatment. Instead of putting out the young seedlings in their flowering quarters among strongly-growing herbaceous subjects, they should be first transplanted in a nursery bed. First put down a layer of well-rotted manure 2 inches deep, then one of gritty soil 4 inches deep. In this bed put out the young plants 6 inches apart each way.

Early in the spring the young plants must be transferred to their permanent positions, the soil of which should be deeply dug and well enriched with road grit, leaf-soil and rotted manure if it be of rather poor quality. Plants so treated will make good specimens by the summer and bear some flowers. If overcrowded in a herbaceous border while they are small, they rarely make good flowering plants the same year. By placing the rotted manure under the soil in the nursery bed the cultivator is enabled to lift the plants with nice balls of soil attached to the roots, so that the plants do not feel any check and continue to grow steadily. The flowering season is from June to the end of August. Aquilegia californica, scarlet; A. cærulea, violet and blue; A. c. albiflora, white; A. chrysantha, golden yellow; A. chrysantha, double; A. Stuartii, blue with white cap; A. glandulosa, blue with white corolla; and the many long-spurred hybrids are all very charming varieties. G. G.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Mowing.—This will now become a weekly or bi-weekly operation, according to the weather and strength of the grass; and if a good, firm, green lawn is desired, it is advisable to keep the mowing well in hand. If left for too long a time, the grass has to be gone over twice, and if the growth is thick, the bottom soon turns pale in colour, and is very easily injured by the frosts that we are still likely to get.

Feeding.—Where the growth of the grass is weak, a dressing of some approved grass manure should be applied during the next few weeks, preferably during showery weather, or, failing rain, it may have to be washed in with the hose.

Worms.—Although these are credited with being beneficial for the drainage and feeding of a lawn, the casts thrown up during mild, showery weather are anything but pleasant to see. A special effort should be made to rid tennis and croquet lawns of worms, and by far the best means of doing this is to use Carter's Worm Destroyer. This, evenly distributed and well washed in, will thoroughly clear a lawn of worms for a year, and in some cases even longer.

The Rose Garden.

Pruning.—Now that the month is drawing to a close, it will be well to complete all the Rose-pruning. After finishing the Hybrid Perpetuals, all the Hybrid Teas may be done.

Plants Under Glass.

Chrysanthemums.—The early-rooted Japanese varieties will shortly be ready for potting on into 6-inch pots, and this should be done, before the roots become too densely matted, in 4-inch or 4½-inch pots, or the plants will sustain a check. January and February rooted plants may not require a shift just now, but any lack of attention as to watering and potting will eventually show itself in the plants, either in loss of foliage or premature hardening of the stems.

Cuttings for growing on as single-stemmed plants may be rooted now, and these, if well looked after, make excellent plants for grouping either in the conservatory or at exhibitions.

Fuchsias.—Old plants that have been pruned and placed in gentle warmth will now have made sufficient growth to warrant their being partially shaken out, or the old ball reduced and repotted into the same-sized pots. Young plants that are being grown on as specimens must be given a slight shift as often as they require it, using a fairly rich and light compost. These plants like a moderately warm, moist atmosphere while making their growth, and, according to the shape the plants are required, so they must be pinched. Pyramids are perhaps the most useful, though standards of some varieties are exceptionally pleasing in certain positions in the conservatory.

Pandanus Veitchii is one of the occupants of the stove which are much admired and very easily grown. The old plants are now throwing small suckers from the base, and if these are removed, inserted singly in small pots and placed in the propagating-frame, they will soon make roots. To maintain good variegation in the foliage, a very light and porous compost should be used, potting very firmly when placed in 4½-inch pots.

The Kitchen Garden.

Vegetables in Frames.—Peas, Broad Beans, Cauliflowers and any other vegetables raised under glass for planting out should now be given all the air possible to harden them off preparatory to planting, and though this may not be permissible for a week or two yet, the hardier they are the better will they grow away when placed in the open.

Herbs.—The herb border should now be gone over, digging up and replanting anything that requires it, splitting up such plants as Thyme, Chives and Tarragon, while small sowings may be made of Borage and Chervil.

Mint.—To keep up a supply of Mint till well into the autumn, I prefer to make a small plantation each spring, pulling up the young shoots with a piece of root attached and dibbling them in a piece of fresh ground in rows 1 foot apart and 4 inches between the plants or cuttings. By about July such a bed will have made sufficient growth to warrant the old bed being dug up. For an early supply for forcing next season, such shoots, pricked off in boxes 3 inches apart and grown on all the summer, give a much better return than lifting the roots and placing in a frame, as a box may be placed indoors every week or ten days, according to the quantity required.

Fruits Under Glass.

Vines.—Too heavy disbudding of young shoots should be avoided, as occasionally there are losses when the shoots are being tied down, and it is easy to remove a shoot or two when it is found that the desired number are quite safe. Alicantes and one or two other very strong growers are the worst sufferers in this respect, and need very careful tying.

Stopping the Shoots.—Generally speaking, the shoots should be stopped two leaves beyond the bunch; but where there is ample room between the rods, this rule need not be rigidly adhered to. In fact, where the Vines are none too strong and the foliage small, I believe it is an advantage to extend them an extra joint or two. All lateral growths should be rubbed out to the bunch, pinching those beyond the leaf at the first or second joint, according to the space at command. Overcrowding of the foliage should be avoided, as one well-developed leaf is better than two or three anæmic-looking leaves that are partially stifled for want of light and air.

Melons.—Plants that have set their fruit should be top-dressed with good loam and a little manure, which, as soon as filled with roots, may have the help of a weekly dressing of a good artificial manure. The present is a good date for sowing a batch of Melons for cultivating in frames. Although most varieties will do well in frames with good treatment, the smaller varieties, such as Hero of Lockinge and Blenheim Orange, are, I think, the most suitable. Cantaloupe Melons may also be sown, and such plants would be ready for placing in the warm frames at about the time the bedding plants are being removed to the cold frames for hardening off.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Bedding Geraniums.—Although not so popular as they once were, these showy bedders have still many admirers, especially that glowing scarlet variety Paul Crampel. The plants should now be transferred to cold frames to be gradually hardened off. Keep rather close and dry for the first ten days, and then inure them to the air by degrees, according to the weather.

Calceolarias.—If frame room is scarce, these may be run out in trenches similar to Celery trenches. Lay a few rods across the trenches to support mats in the event of frost occurring.

Half-Hardy Annuals.—As soon as these show the first pair of rough leaves, they should be pricked off into boxes filled with equal parts of loam and leaf-mould with a little sand in it. When sifting this compost, place the rough part in the bottom of the boxes to encourage root action.

Hardy Annuals.—These may be sown within the next fortnight. Such things as Nigellas, Poppies, Candytufts and Eschscholtzias may be sown where they are to bloom; but with many of the finer varieties it is worth while to sow them in cold frames or under improvised protection formed of rough boards and sheets of glass in some sheltered, sunny nook. This precaution is chiefly taken to protect the tiny seedlings from slugs and snails.

Herbaceous Plants.—All bulbous plants will now be pushing, and the work of forking over the beds and borders may be proceeded with. If previous hints were acted upon, all top-dressing will have been attended to; this, however, is a good time to give dressings of soot or ground lime. Any necessary planting or reduction of the plants should now have attention. In carrying out the latter operation, retain a portion near the outside of the clump, where it will be observed the pushing growths are stronger than in the centre.

The Rose Garden.

Pruning Teas.—With the later additions to the Hybrid Teas the difference between them and the Teas is almost indistinguishable, whether as regards colour, form, or constitution. Taking the Teas as a class, however, they should be pruned harder than either the Hybrid Perpetuals or the Hybrid Teas; but in carrying out the work of pruning the same general principle as that laid down here a fortnight ago must be observed, viz., the weaker the variety, the more closely should it be pruned. Except in very cold localities, the work of pruning may now be proceeded with.

Plants Under Glass.

Zonal Pelargoniums.—The cuttings inserted a few weeks ago to furnish plants for late autumn flowering will now be ready for potting up into 3½-inch pots. Use a compost of two parts loam to one part good leaf-mould, with a little sand. Keep the plants in an intermediate temperature for another week or two.

Tuberous Begonias.—Tubers started a month ago should now be ready for potting off. The size of the pot must be determined by the size of the tuber, but do not give too much room at first. Equal parts of fibrous loam and half-decayed Beech leaves passed through a three-quarter-inch mesh sieve, plus a little sand and pounded charcoal, will suit them at this stage. Barely cover the tubers and pot lightly. Shade from bright sunshine and do not coddle.

Fruits Under Glass.

Thinning Grapes.—This delicate and important operation should be carried out with great care, more especially if there is any thought of exhibiting. The Muscat varieties and those of the Hamburgh type require somewhat different treatment, although certain general principles apply to both. These principles are as follows: Never reduce the circumference of the bunch; maintain its symmetry as far as possible, aim at leaving the berries a uniform distance apart, and cut out the small berries as far as is consistent with this. Muscats, having stiffer and shorter footstalks, must be more severely thinned than Hamburghs.

Strawberries.—As the fruits begin to ripen, give them the benefit of all the available sunshine, also a little air on all favourable occasions. Continue to give mild stimulants to plants whose fruits are swelling.

The Hardy Fruit Garden.

Protection from Frost.—As fruit trees on walls come into flower, a close watch should be kept, and they must be protected from frost by means of netting. It is wonderful what an amount of protection is afforded even by a single net, and a double net will ward off all but an abnormally sharp snap of spring frost.

Raspberries.—As soon as the young growths are 6 inches high, all surplus ones should be cut out, as they only tend to rob the others of their due share of light and nutriment. Six canes is the maximum number that should be allowed to a stool.

The Vegetable Garden.

Vegetable Marrows.—Seeds of this useful vegetable should now be sown in a little heat in 4-inch pots, one seed to a pot. Moore's Cream and Long White are two excellent varieties, the latter being a heavy cropper.

Cauliflower.—Autumn-sown plants may now be planted out on a south border in well-prepared and highly-enriched soil. Lift carefully and plant with a trowel. Place a ring of soot round each plant to ward off the attacks of slugs. Plants resulting from an early sowing under glass should be pricked out under frames or hand-lights and gradually hardened off.

Staking and Sowing Peas.—The early sowings will now be ready for staking. Draw a little earth up to them first, and see that twiggy branches are supplied near the ground for the plants to cling to right away. Make another sowing.

Broccoli should now be sown after the seeds have been coated with red lead. For the autumn supply Veitch's Self-protecting is very good; for winter, Snow's Winter and Purple Sprouting are both good in their way; and for spring I can recommend Flower of Spring and June Monarch.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NEW AND RARE PLANTS.

Primula Purdomii.—A remarkable new species from Foochow, West Kansu, and probably *the* most distinct of a genus rich in good things. The 4-inch to 6-inch long lanceolate leaves with the stems and calyces are covered with a white farina. The pale lilac, yellow-eyed flowers are borne in umbels on 8-inch-high peduncles, the umbels six to twelve flowered. The flowers are delightfully fragrant. The new-comer is said to be quite hardy. From Messrs. James Veitch and Sons, Limited, Chelsea. First-class certificate.

Omphalodes Cappadocia. — A lovely blue, white-eyed species of distinct habit and free growth. The flowers are profusely borne on 8-inch-high stems. The leaves are ovate-acuminate, deeply nerved, 1½ inches long and 1 inch broad. A pretty plant for the rock garden or alpine-house. From Mr. M. Prichard, Christchurch, Hants. Award of merit. Both were shown before the Royal Horticultural Society on the 18th inst.

CHARRING TIMBER FOR PROTECTION.

Of the numerous expedients for preventing decay in fencing timber, charring is perhaps the simplest. Rather an old-fashioned remedy, its use is dying out, and creosote finds more favour in modern fencing. There is more in charring, however, than may appear at first sight, and it is not done merely as a surface protection against wind and weather. It is, in fact, a very useful form of preservative, as the burning process not only forms an outer covering to the timber which is fairly good proof against insects and fungi, but it acts as a protection to the inner layers of the wood in a manner not perhaps always realised. The charcoal is itself almost indestructible after the post has been buried, but the protection of the deeper layers of timber is due to their being saturated by a layer of resins, tannin and similar material, which the heat from the fire drives inwards, and, to make this effective, about half an inch of charcoal should be formed.

A tendency to crack is, no doubt, one of the disadvantages of charring, but if the wood is thoroughly burnt and not merely surface scorched, there is much less danger of this occurring. In any case, tarring in addition is advisable, as it more effectually seals up the wood from the entrance of water and air, and this is the one thing needful. There is, of course, some damage done to the wood, and a proportionate amount of weakness, but far less than occurs naturally at the point where charring is required—a little above and below the ground-level. Cracks in the timber should be specially avoided in this form of preserving timber as compared with creosote or similar fungicides. G. T.

DAFFODIL NOTES.

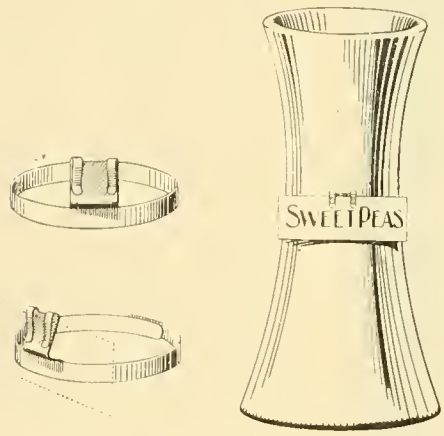
Daffodils in Pots.—I joined Mr. Walter Ware and Mr. Christopher Bourne while they were enjoying a good supper at "The Windsor" the other night. The subject of growing choice varieties in pots was touched upon. You should have heard them talk. I am not going to repeat all they said, and I do not want anyone to write to such busy men to ask them. Well, they were most enthusiastic, and I do not think they ate as much as they otherwise would have done. You can draw your conclusions. I know what they will be. I will supplement them by saying pot early—pot very early—if you wish for the maximum of size and beauty in your flowers and the maximum of enjoyment for yourselves.

NARCISSUS SYCORAX, A NEW CYCLAMINEUS SEEDLING OF RICH YELLOW COLOUR. (*Two-thirds natural size.*)

March 18 at Vincent Square.—It is proverbially difficult to foretell events, but the advent of seedling Daffodils in increasing numbers every year makes one wonder what will happen in the not very distant future. With the exception of Robert Sydenham's and Mr. C. Bourne's, every group had its own seedlings, to be a bit Irish. Messrs. R. H. Bath, Messrs. Cartwright and Goodwin, Mr. F. Herbert Chapman and Mr. Watts, to say nothing of Messrs. Barr and Sons and Mr. Wilson, displayed samples of their hybrids. This, again, is but typical of what is to my certain knowledge going on in several amateurs' gardens. It is food for reflection for both dealers and buyers, for it must influence prices. I think everyone was agreed that the collection which Mr. A. M. Wilson staged was an excellent one. He had samples of that fine all-red cupped Poetaz Rubellite and the almost equally bright incomparabilis Robespierre. He had beautiful yellow trumpets and no less taking giant Leedsiis and giant "incomparables." One which was numbered 179 was a great spidery-looking thing with a cup of a striking red orange so large that one almost imagined one's self among the Dutch cheese in the market-place at Alkmaar. Others of this type were Cedric, a rather pale yellow, with that curious withered look in the perianth which always suggests a chill; and the Hon. J. R. Seddon (4⅛ inches by 1½ inches by 1⅜ inches), a more pointed flower, with a primrose perianth and a deep yellow cup. I have seen photographs of many Australian and New Zealand flowers, but this is the first time I have seen it (to know it) in the flesh. I heartily congratulate Mr. J. Biggs of Christchurch, New Zealand, on being the raiser of a variety that can well hold its own among Mr. Wilson's gems. A bloom which very much appealed to me was Buckram, a flat, show flower with the palest of primrose perianths and a pale lemon yellow cup with a band of soft red. Size, 3½ inches diameter of perianth, three-quarters of an inch diameter of the eye. Two varieties of a moderate price which I feel I must mention are Diogenes, a fine pale bicolor Ajax, and Fleetwing, a bicolor incomparabilis. Messrs. Barr and Sons were deservedly awarded a silver-gilt Flora medal. They had at least 100 different seedlings—of course, of varying grades of goodness—a gentle reminder that the "old original" is not worked out yet. There was the immense yellow trumpet Ajax Atlas (5 inches by 2 inches by 1¾ inches) bearing all these kinds on its shoulders as it were, with a leaf almost broad enough (1¼ inches) to make a boat to take them down the Thames. As nearly all were only under numbers, it is impossible to describe them. Battle Axe, a giant red-cupped Nelsoni-looking flower, took my eye for one, and so did Sycorax, a Dutch cyclamineus seedling which has a good constitution and is a rapid increaser. It is very early and has the well-known reflexed perianth of its parent. It is, however, considerably larger in all its proportions. I fancy

it will make an ideal plant for the rockery or for pots. Blazing Star belongs to the garden or decorative type. It is a loosely-built yellow incomparabilis with a decided red edge to the cup. I have not grown it myself, but I am assured it does not burn. An out of the common but charming little flower, the result of crossing calathinus with minimus, was to be seen in Little Queen. The small trumpet is ivory white and the perianth pale lemon. I think such little things, if they prove to be good doers, will have a real use in these days of the rockery mania beyond their mere botanical interest. More comments on flowers I must reserve till next week.

Clip for Names at Shows.—A certain Mr. W. F. Mitchell of the Midland Daffodil Society one day lately had a happy inspiration and promptly sat down and thought out a simple contrivance for attaching the names of the flowers to the vases in which they are shown on the exhibition stand. He thereupon made a sample, and then took the very wise step of showing it to the governing director of Robert Sydenham, Limited, who in turn brought it to London for expert opinion, which I am sure was more than favourable. The upshot is that it is now being made as quickly as possible, and I hope to see it before the season is



A NEW CLIP FOR HOLDING A NAME CARD.

over figuring at some of our shows. The illustration fully explains the principle of the contrivance, which is simplicity itself—nothing, in fact, but a small steel spring which clasps the vase, and a properly-adjusted holder for displaying the name card. Everyone will say when they see it, "Why did no one ever think of it before!" I do not think it will stop short with us Daffodil people.

A Daffodil Year Book.—The Royal Horticultural Society's Narcissus committee, at its meeting on the 18th inst., approved certain recommendations with respect to the publication of a year book. I hope that this widely-wanted annual will make its bow to the public before the summer is over I have undertaken to make a list of varieties which have received awards during the present season from all societies other than the Royal Horticultural Society. Lists of such from secretaries, especially Colonial ones in Australia and New Zealand, would be very gratefully received.

A Step in the Right Direction.—A small subcommittee has been appointed to try to devise a workable scheme whereby the scope of its awards could be enlarged. The committee has got deeply into the florist rut, and it is going to try to get out of it.

JOSEPH JACOB.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

THE GREENHOUSE.

POLYANTHUS NARCISSUS (*A. B.*).—On no account should the Narcissus be given any stimulant as the flowers are developing, as the blooms in embryo are contained within the bulb, and the natural nutriment derived from the soil and water is all that is needed. Too moist an atmosphere would also cause some of the buds to go rotten.

ARUM LILIES FAILING (*Arum*).—We regret that it is quite impossible for us to state the reasons of the comparative failure of your Arum Lilies. It may be caused by attacks of aphides, or green fly, as the spathes are developing, or by their being allowed to get too dry at times. Furthermore, the feeding seems to have been on a very liberal scale; indeed, it may have been sufficient to injure the roots. We should certainly advise the giving of a less amount of stimulants, as too much is apt to set up an unhealthy condition of the plants, which affects, first of all, the flowers.

PERPETUAL CARNATIONS (*T. H. H.*).—The change from a clear atmosphere to a smoky district would be very detrimental to the American Tree Carnations, as also would the knocking them out of their pots and sending them a distance in the month of October. The temperature stated is correct, but if the house was kept in any way close and damp, it would be very detrimental to the Carnations, as they need a light and buoyant atmosphere. We fear nothing can now be done to restore the plants to health, and should suggest obtaining some young growing plants in small pots at the present time and shifting them into larger ones when necessary. The plants would then have ample time to become acclimatised to their surroundings during the spring and summer months.

PELARGONIUM LEAVES (*N. C. L.*).—Your Ivy-leaved Geraniums are attacked by a trouble very common among this class of plants. Various suggestions have been put forward as to its cause, but the most generally accepted idea is that it is set up by too liberal feeding. It may not be that your particular plants have had an excess of stimulants, as the taint in the blood may be inherited for generations, just as the human race often suffers for the excesses of its forefathers. At all events, potting or planting into some good sweet soil in which manure enters but little, if at all, will often suffice to restore them to health. Some varieties are more prone to this disease than others. In some instances a form of fungus occurs on the blotches, and for this spray the plants with a solution of permanganate of potash, prepared by dissolving the crystals in water. The solution should be made of such a strength that it is of a pale rose colour.

FRUIT GARDEN.

WASH FOR FRUIT TREES (*F. N. H.*).—It is almost useless trying to destroy mildew by winter spraying; but there is nothing better for summer use than potassium sulphide, at the rate of 1oz. to three gallons of water. Flowers of sulphur, dusted on while the plants are moist with dew, is also an effective preventive. Apple trees affected by mildew should have the affected shoots cut away and burned.

STRAWBERRIES IN BARRELS (*Brandville*).—It is now too late to make a good start to grow Strawberries in barrels for this year. The earliest runners should be obtained and planted in the barrels as soon as they are rooted in small pots. This should not be later than the first week in August. If you would like to try to produce a crop in this way this year, the only way to do so with a fair prospect of success is by purchasing strong, well-rooted young plants in pots and planting at once. An eighteen-gallon barrel is a good size to use. Holes should be bored 1½ inches in diameter at 8 inches apart, the top row of holes to be 5 inches below the top of the tub. The next row should be 7 inches below the first row, and so on to the bottom of the barrel. The bottom row should be at least 5 inches from the bottom. The barrel must have five holes bored in the bottom (1 inch diameter) to admit of drainage. Place broken potsherds over these holes to the depth of 2 inches, and then add over these thin turves, one layer only, with the grass side downwards, ramming tightly down over the drainage. On these turves place as much soil (say, 1 inch or so in depth) as will bring it to the level of the first (bottom) holes, planting the bottom row. Turfy, loamy soil of rather a heavy texture is the best. Break the turves into lumps the size of a hen's egg, using the small soil also. To a barrow-load of this loam add half a bushel of well-rotted farmyard manure, one peck of old mortar rubble, and half a gallon of bone-meal, mixing the whole well together. The soil should be moderately dry when planting takes place.

PRUNING KENTISH COB NUT TREES (*J. P.*).—The Kentish Cob Nut tree is much benefited by hard pruning. This consists of cutting back the young shoots of last year's growth by one-third their length. This induces the formation of fruit-spurs lower down the shoots. These shoots should always be cut to a bud underneath the branch, as in this way it encourages side or lateral growth in the trees and prevents the branches getting too high at any time. Dead and decayed wood must be cut away, also any suckers which may form, in order that plenty of light and air may penetrate and circulate among the branches.

PEACH TREES CASTING THEIR FLOWER-BUDS (*E. H.*).—In nine cases out of ten the cause of bud-dropping in Peach trees is the want of sufficient water at the roots during the autumn and winter. It is no use watering after the mischief is done and when the buds are dropping. Take a lesson from the Peach grown on walls out of doors. Buds seldom or ever drop on such trees. See how well soaked they are with all the autumn and winter rains. Try thorough watering with weak liquid manure every other time next autumn and winter. Do not excite the trees into premature growth by keeping the house too warm at any time. Learn again from the trees out of doors, how dormant they remain until Nature forces them into growth.

KITCHEN GARDEN.

TO GROW MUSHROOMS WITHOUT HORSE-MANURE (*M. F.*).—Many materials have been tried over and over again, such as moss litter and freshly-fallen leaves, but without any success, and we would not advise you to begin with anything else than fresh stable manure, and that from corn-fed horses if possible.

VEGETABLES FOR EXHIBITION IN JULY (*New Reader*).—To be certain it will be safer to make at least two small sowings. As regards Cauliflowers, it depends whether you are going in for large varieties or smaller ones. If large ones, you should sow at once under glass in a cold frame, and again the first week in March. For smaller ones a fortnight later will do in a warm corner out of doors. Make one small sowing of Peas at the end of March, another the first week in April, and another a week later. It depends so much on the weather. For Cos Lettuce you must allow from ten to twelve weeks from the time of sowing. For Cabbage Lettuce a fortnight less will suffice.

MISCELLANEOUS.

TREE STUMP AND RAMBLER ROSES (*M. G. I.*).—We think it would be unwise to attempt to kill the stump of the tree with salt now, for Roses are very intolerant of salt in the soil.

COLLEGES FOR LADY GARDENERS (*A Reader*).—The Swanley Horticultural College, Swanley, Kent, and the Lady Warwick Hostel, Studley Castle, Warwickshire, both teach ladies the art of gardening. If you write to the Principal of either, you will obtain full information concerning them.

TREATMENT OF VARIOUS NEW ZEALAND PLANTS (*New Zealand*).—Cordyline australis may be grown in a greenhouse or dwelling-room from which frost is excluded, and in the milder parts of the country, such as Devonshire and Cornwall, it thrives quite well in the open ground. It may be grown in a compost of two parts fibrous loam and one part peat, with a little well-rotted manure and sand. Give plenty of water at all times, keep the leaves well washed, and when the pot is filled with roots give manure-water once or twice a week. When planted out of doors it grows 12 feet or 15 feet high, and forms a stout trunk surmounted with several branches bearing large heads of leaves. Phormium tenax requires the same temperature, but is always seen at its best when planted out in the vicinity of water, say, about the margins of a lake or stream. It then grows into very large clumps and forms leaves 6 feet to 8 feet long. You can cultivate it in pots or large pans in similar soil to that recommended for the Cordyline, but you must give it plenty of water at all times, more particularly during the summer. Sophora tetraptera can be grown in a cool house likewise, but it never does so well in pots as when planted against a wall in the milder counties. It then flowers magnificently, but flowers are rarely produced by pot-grown plants. Similar soil to that recommended for the other plants will answer, except that leaf-mould may be substituted for manure. It will not require so much water as the other two, especially during the winter.

NAMES OF PLANTS.—*Mrs. Davenport.*—Cistus albidus and Nephrolepis exaltata.——*S. P. Rowlands.*—1, Prunus Laurocerasus (common Laurel); 2, Berberis Aquifolium; 3, Prunus lusitanica (Portugal Laurel); 4, Ligustrum vulgare (common Privet); 5, Sequoia gigantea.——*M. O. F.*—Probably Prunus Mume; specimen too scrappy to identify. ——*G. Dean.*—Rumex Acetosella (Sheep Sorrel).——*G. E. Bletchley.*—The common Privet (Ligustrum vulgare).

NAMES OF FRUITS.—*F. Crockett.*—1, Smart's Prince Arthur; 2, Nelson's Codlin.

THE GARDEN.

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EDITORIAL NOTICES.

Every description of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

A Good Green Paint.—In response to requests from several readers, we repeat the recipe for a really good green paint which first appeared in our pages in 1910. This is a mixture of paints "ground in oil" of one part black, two parts light chrome, and four parts white lead, suitably thinned in the usual way. Most of the so-called green paints used for stakes and tubs refuse to harmonise with green foliage and stems.

Manuring Strawberry-Beds.—During the next week or two it will be advisable to give the Strawberry-bed a rather heavy dressing of long, strawy manure. This will answer a dual purpose. A certain amount of nutriment will be washed from it down into the soil, and by the time the fruit is ripening, the straw will be perfectly sweet and clean, and act as a good protection against the splashing of the fruits by rain. Previous to putting on the manure we like to very lightly fork into the soil some soot and lime, about a good handful of each to a square yard.

A Beautiful Rock Garden Viola.—In Viola florairensis we have a delightful little hybrid Viola, raised by M. Correvon in his alpine garden, and one of the most useful rock garden plants. It is only 2 inches or 3 inches high, and bears for a long time in succession delightful little blue flowers. It has already acquired considerable favour, and should be remembered by those who are fond of these dainty hybrid Violas in their rock gardens. That it is a welcome plant in the famous garden of Sir Frank Crisp is a sufficient passport to secure the admission of this Swiss hybrid to many of our best rock gardens.

Limes at Brockley Coombe.—In the beautiful woods at Brockley Coombe, Somerset, may be seen some of the finest Lime trees in the country. A little way off the public road that runs through the coombe stand a line of eight veteran trees, the remains of what was probably a much longer avenue. The trees are of magnificent proportions, with low-spreading branches almost from the base. Some of the side branches alone are 12 feet to 14 feet in girth. That the trees are of great age there can be no doubt. They are said to be over four hundred years, while the common Polypody growing on the branches adds an additional charm to the picturesque appearance of these noble trees.

Official Guide to Kew Gardens.—The Board of Agriculture and Fisheries have appointed an official guide to conduct parties of visitors round the collections in the gardens, plant-houses and museums. Two tours will be made daily, Sundays, Good Friday, Christmas Day and Bank Holidays excepted. A nominal scale of charges has been authorised, and means will be taken to prevent unauthorised persons attaching themselves to the party. These tours, of which full particulars can be obtained by applying to the Director, the Royal Gardens, Kew, commenced on April 1, and should be much appreciated by those who wish to gain an intimate knowledge of the many interesting features to be found in the gardens.

A Yellow-Flowered, Fragrant Annual. Bartonia aurea is a showy hardy annual with large golden yellow flowers an inch or so across, which are fully expanded in the evening, when they are very fragrant. It will thrive in the open border or in partial shade, and to produce a display during the summer months, seed should be sown in April. This annual does not like transplanting, neither ought the seedlings to be crowded. When large enough it is advisable to thin them to a distance of 4 inches. The plant grows about eighteen inches high.

"Setting" Tomato Blooms.—It is well known that bees never visit the flowers of the Tomato, and in order to secure a good yield of fruits it is necessary to adopt some artificial means of pollinating the blooms. This is usually accomplished by tapping the stakes or wires to which the plants are tied, or by pollinating the flowers with a hare's tail. A much better way of performing this work is by syringing the plants with clear water about noon, when the flowers are open. The different methods have been tried both with Tomatoes under glass and in the open, and the use of the syringe has given the best results.

Pruning Forsythia suspensa.—Although it is not necessary under all conditions to prune this plant regularly, when it is planted against a wall or trellis, or when it is grown as a bed in the open ground, an annual pruning is essential, and now, or as soon as the flowers are over, is the time to do the work. Cut all secondary branches back to within one or two eyes of the base and remove very weak shoots altogether, for it is better to obtain a comparatively small number of long, vigorous shoots than a larger number of weaker growths. As soon as the pruning is done, fork the ground lightly over about the roots and apply a generous dressing of well-rotted farmyard manure, for to keep the plants in good health it is necessary to keep the surface soil rich.

Alleged Poisoning by Ferns.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Miss S. Edmonds sent an account of the death of two cats, supposed to have been caused by eating the fronds of Ferns in a dwelling-house. One had died and a second, which later betrayed the same symptoms, which were those of an irritant poison, was killed, as recovery was deemed impossible. The first was not examined, but the second was, and pieces of a Fern frond were found in the stomach. The Fern was sent for examination, and proved to be Nephrolepis exaltata todeaoides. No record of this Fern or any of its congeners being poisonous was known to any member of the committee, but the committee would be glad to learn whether animals having access to it have been known to be poisoned,

CORRESPONDENCE.

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

The Shaggy Pasque-Flower.—Owing to a misunderstanding, the illustration of this Pasque-flower (Anemone vernalis) on page 156 of last week's issue was stated to represent a group growing in Mr. Malby's garden at South Woodford. The photograph was taken by Mr. Malby last July in the Valois at an altitude of 8,500 feet.

The Raising of Seedling Narcissi.—For some years past Narcissus Princess Mary has been recommended to those who are engaged in hybridising the Daffodil as an excellent seeder and parent of fine progeny. I have for years raised numbers of seedlings from it, and many charming varieties may be picked out of them. But Princess Mary seedlings are mostly on the small side, and among the multitudinous things that are now being produced on all sides, size is becoming an important consideration. I wonder if any of your readers know of a large incomparabilis which will throw seedlings of anything like the beauty and variety that does Princess Mary, but of larger size. If so, I feel sure that the information would be useful to others besides myself.—A.

Iris fimbriata.—"T. M. D.'s" note and illustration of this plant on page 142 of March 22 issue are very interesting. I have grown this plant for ten years, and I never fail to flower it. The first plant I had was brought by a lady also from Rome, and she called it a "Roman Iris," but the proper name is Iris japonica sinensis fimbriata. I had it classified at Kew. It is a beautiful flower, but only lasts for such a short time. —J. S. Higgins, *Glynllivon Gardens, Carnarvon.*

—— I was much interested to see illustrated on page 142 of March 22 issue Iris fimbriata. I may say my employer sent a plant of this home from Madeira five years ago, which has done very well and flowered very freely every year since. I have grown it in a vinery for the most part, and it seems to have suited it very well. I should be pleased to know if the plant illustrated behaves in the same way as mine does, that is, that here the individual blooms, which are of a most fascinating shade of pale blue, with very fine delicate darker markings and a beautiful yellow throat, only last about twenty-four hours; but such a quantity of blooms are produced on the spikes that the flowering period lasts with me about six weeks. — David Mackie, *The Gardens, Eshott Hall, Felton, Northumberland.* [It is characteristic of this Iris for each flower to last only for about twenty-four hours, but, as our correspondent points out, so many are produced that a good plant always has a number of open blossoms during the flowering season. We hope next week to publish cultural details of this charming Iris.—Ed.]

Iris delicata.—As the very earliest of the Bearded Irises, this is a valuable little plant, although the flowers are not particularly showy. The standards are silvery white and the falls are sulphur coloured, with rather deeper veinings and a yellow beard. In our large collection of species and hybrids this is the first to flower out of doors, and so we think it deserves to be better known. It was raised several years ago by Mr. W. J. Caparne, but is still very scarce. It must be grouped with the pumilas, the flowers rising only from 6 inches to 8 inches above the ground. The constitution is sound and vigorous, although it does not increase so rapidly as some varieties.—R. Wallace and Co.

Mr. Lester Morse on Sweet Peas.—In reference to the note by Miss Hemus on page 154 of last week's issue, I am only a little dabbler in Sweet Peas, but I always like to get the best of each colour according to the list issued each year by the National Sweet Pea Society, and I have never been disappointed with the result. The floral committee may not be the acme of perfection—none would be to all, for what would please one would offend another; but I am sure the present committee are quite as unprejudiced and capable of giving us an impartial list of the best varieties that will eventually give the best results to the people who pay money for seed and for whom it is intended, quite irrespective of raisers' names, than any committee to be nominated or headed by your correspondent. I have grown Evelyn Hemus and Mrs. C. W. Breadmore side by side under identical cultural conditions, but discarded the former in favour of the latter because I found Mrs. C. W. Breadmore, certainly not coarse, but stronger in growth, far freer in flowering and over a longer period; in short, a better variety all round. It is the one variety I place first in my seed order each year as being the one I feel I shall get the best results from, and as she has served me so well, I cannot be silent when her reputation is challenged. We all think our offspring far better than anyone else's, but it is indiscreet to mention it too often.—H. P. B., *Bristol.*

THE DECIDUOUS CYPRESS (TAXODIUM DISTICHUM) IN NORTHERN FLORIDA. NOTE THE PROMINENT "KNEES" THAT THE TREES HAVE FORMED.

Chionodoxa nana.—This rare little Glory of the Snow is a late bloomer and is a pleasing Chionodoxa, although considerably smaller than any of its congeners. It hails from Crete, whence it came several years ago, but it does not appear to have been reimported for a considerable time. It has narrow leaves and small blue and white flowers, much less effective than those of its allies, but, still, pleasing and interesting. It is a good Chionodoxa for the rock garden. It is only 2 inches or so high.—S. Arnott.

Deciduous Cypress in Northern Florida.—In The Garden for January 11, page 23, you published an interesting article on Taxodium distichum, and in it reference was made to the curious swelling of the roots which takes place when the trees grow in a wet place, as is often the case. Herewith I enclose a print of a photograph I took in Northern Florida showing this formation, which might be interesting enough to publish. The appearance of the foliage may be a little difficult to understand, as, besides the leaves of the tree, there is what is known as "Spanish Moss" (Tillandsia usneoides) hanging from the branches. This so-called Moss is very common in Florida and forms quite a feature in the landscape, as it often hangs down for several yards. I even noticed it hanging from the telegraph wires, but as it is of a grey colour it was not possible to say definitely that it was growing there. — J. C., *Larne, County Antrim.*

The Fifty Best Alpines.—The lists of fifty best alpines given by Messrs. Arnott and Farrer in recent numbers of The Garden are of great interest to those who, like myself, are but beginners in the art of alpine gardening. As you invite lists from your readers, I venture to offer one that was published, about five years ago, by a writer in the *Times*, whose articles have since been published in book form under the title of "Studies in Gardening." His list is as follows (it may be noted that there are not quite fifty): Achillea argentea, Æthionema grandiflorum, Aquilegia pyrenaica, A. alpina, Androsace carnea, Arenaria montana, Asperula Athoa, A. hirta, Campanula garganica, C. portenschlagiana, Daphne Cneorum majus, Dianthus alpinus, D. callizonus, D. neglectus, Erodium guttatum, Gentiana verna, Geranium argenteum, Hypericum reptans, Iberis saxatilis, Linaria alpina, Lithospermum prostratum, Nierembergia rivularis, Onosma tauricum, Oxalis enneaphylla, Papaver alpinum, Pentstemon glaber affinis, Phlox Nelsoni, P. Vivid, Polemonium confertum, Polygonum vaccinifolium, Primula nivalis, Ranunculus amplexicaulis,

Ramondia pyrenaica, Rosa alpina, Saxifraga Cotyledon, S. burseriana major, Saponaria ocymoides, Sempervivum arachnoideum, S. Laggeri, Silene alpestris, Viola gracilis and Veronica prostrata. Perhaps I ought to mention that this list is called "The Fifty Best Rock Plants" (not alpines), which may account for some of its variations from the others. The writer had in a previous article given a list of the fifty best hardy perennials. —L. B.

—— Had you not invited criticisms of the lists given, I should not have dared to comment on Mr. Farrer's choice of his beloved specialities. But my favourites would surely have resented my allowing them to remain unnamed, and I cannot risk their displeasure; therefore I must crave Mr. Farrer's forgiveness for carving his list. Quite apart from colour and times of blooming, I must first include Sisyrinchium grandiflorum and dispense with Primula × intermedia; then I could do without Saxifraga Cotyledon, but not so Calandrinia Howellii. Anemone sylvestris major, sweet-scented beauty though it be, must give place to A. nemorosa Allenii, which I consider to be the most beautiful of all dwarf Anemones. Rhododendron racemosum must be there at the expense of—shall I say?—Geranium lancastriense. Lastly, please let me include Primula involucrata, a mass of it, in place of P. × pubescens alba, much as I love the latter.—G. G. Traherne (Captain), *Strathaven, N.B.*

Reliable Lilies for the Garden.—I am much obliged to your contributor "H. P." for supplementing on page 142, issue March 22, my list of "Reliable Lilies for the Garden." Some years ago a selection of varieties that I made at the request of the Duchess of Sutherland for a projected "Lily garden" at Lilleshall House in Shropshire was supplemented by Sir Herbert Maxwell in a similar way. I am glad your correspondent has included Lilium Hansonii and L. excelsum, which I cultivate in my garden and greatly admire.—David R. Williamson.

The Advance in Yellow Roses.—During the last two decades or so we have had a vast improvement in yellow Roses. Maréchal Niel, Celine Forestier and Rêve d'Or were for a long time our best and most generally grown yellows among climbers, with Isabella Sprunt, Mme. Falcot and Marie van Houtte as dwarfer growers. Unfortunately, the first two in these selections are rather tender, but, where they do well, few among the large number of newer yellows can approach them. It is the purer yellows that I have more particularly in my mind at present, but must perforce say that there has been equal improvement in both flowers, habit of growth and general usefulness in the class of orange and golden yellows, with their many and varied beautiful shadings. The best newer yellows among the Hybrid Teas must include Miss Alice de Rothschild, Gustave Regis, Instituteur Sirdey, James Coey, Le Progrès, Melody, Senateur Mascurand and Walter Speed; while among the Teas we have a few grand additions in Harry Kirk, Alexander Hill Gray, Lady Hillingdon, Medea and Sulphurea. In the newer class of Pernetiana Roses Rayon d'Or stands head and shoulders above the rest. It is freer blooming than most in its section, and retains its depth of pure yellow right up to the last. As a rule, our other yellows have a tendency to pale very rapidly as the flowers expand. Both Rayon d'Or and Miss Alice de Rothschild are marked exceptions to this, and have been good during the widely varying seasons since their introduction.—A. P.

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is now being taken in rock gardens, the Proprietors of The Garden offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in The Garden. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed P.O.P. prints must be sent, and each should be on a mount with not more than half an inch margin.
5. All photographs must be sent to arrive at The Garden Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in for competition will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed for the purpose, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken to return them uninjured.
7. The Proprietors of The Garden reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

FORTHCOMING EVENTS.

April 8.—Cornwall Daffodil and Spring Flower Show at Truro (two days) Devon Daffodil and Spring Flower Show at Barnstaple (two days).

April 9. — Royal Caledonian Horticultural Society's Spring Show at Edinburgh (two days).

April 10. — Perpetual Flowering Carnation Society's Show at Leamington (two days). East Anglian Horticultural Club's Meeting.

April 14.—United Horticultural Benefit and Provident Society's Annual Meeting.

April 15.—Royal Horticultural Society's Meeting and Daffodil Show (two days). Lecture by the Rev. Professor G. Henslow on "The Origin of Life—Why it is Undiscoverable."

April 16.—Royal Horticultural Society's Bulb Show and Primula Conference. Royal Horticultural Society of Ireland Spring Flower Show (two days). County Clare Horticultural Society's Spring Show.

SCIENCE IN RELATION TO HORTICULTURE.

STERILISATION OF SOILS.

The subject of soil sterilisation is receiving considerable attention at present from gardeners, and especially from market-gardeners raising crops under glass. It is found that the rich artificial soils with a high water content and summer temperature used in such cases form a particularly favourable medium for the growth and development of certain forms of minute life, and that these gradually make the soil unhealthy to the roots of the crop. The soil becomes "sick," and hence useless for greenhouse work unless the sickness can be cured and health again restored to it. Some of the organisms frequent in "sick" soils are animal creatures, such as the minute worms that cause "clubbing" in Cucumbers, while others are of a fungal nature, like the parasite that produces "sleepy disease" in Tomatoes. But if these were the only inhabitants of the soil, while they would still induce disease, yet they could hardly bring about that peculiar soil condition recognised as "sickness."

For a proper understanding of the subject we must know something more about the soil, and especially understand the conditions that determine its fertility. The soil is not a mere mass of inert material; on the contrary, it teems with life; it is a world in itself. Each tiny particle of soil is surrounded by a film of water, and as these films are in touch with one another, it follows that a vast sheet of water extends throughout the entire soil. In this shallow sea of soil water uncountable numbers of bacteria "live, move and have their being," together with minute slow-moving animals (protozoa) that feed upon these bacteria as herbivorous animals feed upon grass in the upper world. The bacteria play a most important part in the nutrition of crops. Some break down the organic matter of manure, &c., and liberate ammonia; others convert the ammonia into nitrates; while others, again, can utilise the free nitrogen of the air in the interspaces of the soil. Without bacteria the soil would be barren; the food might be there, yet the crops would starve, because, unless fermentation is induced, the food material cannot be dissolved in water, and hence the feeding roots cannot absorb it. Now, under the conditions of intensive culture in a warm greenhouse, it seems that the protozoa are very highly favoured, and that as they increase enormously in numbers they reduce the population of bacteria to such a degree that their efficiency is seriously interfered with, and the soil, although excessively rich, fails to supply a sufficiency of food to the growing crops. It becomes "sick."

We can now turn our attention to sterilisation and its use in practical horticulture. In 1888 Franke discovered that by heating a soil he increased the amount of soluble foodstuff in it, while later experiments showed that chief among these were soluble compounds of phosphorus and nitrogen. In 1902 Dietrich made the important discovery that while this was true, yet at the same time certain poisonous substances were liberated on heating, but pointed out that these might be neutralised by the use of lime. Later it was noted by Schule that even without lime the poisonous properties of the soil gradually disappeared, and that the crop, growing poorly at first, afterwards made great progress in its growth.

In 1907 Russel and Darbeshire found that they were able to get the same results by the use of antiseptics as others had got by heating the soil to the boiling point of water. Now this was a most important discovery, as it pointed to the real nature of the cause. It indicated a biological factor in addition to a chemical one in producing the results of sterilisation. Following up this work, Russel and Hutchinson, in 1907, published a paper in which it was first suggested that protozoa were the chief cause of soil sickness. The explanation is this: By heating the soil from 95° Cent. to 100° Cent. it is partially, not wholly, sterilised. The animal population is destroyed, but not the bacterial, at least, not entirely. By the use of an antiseptic, such as carbon bisulphide or formalin, the protozoa are killed; but the only effect upon the bacteria is to throw them into a state of rest, and when the volatile antiseptic escapes, as it will in time, the bacteria awake and renew their activities. So that after partial sterilisation, either by heat or by the use of antiseptics, when the bacteria become active again they find themselves in surroundings entirely freed from their voracious enemies, and thus they feed, grow and multiply at an amazing rate, and hence, incidentally, liberate an abundant supply of food to the growing crop. The partial sterilisation of soil for forcing work, especially in Cucumber and Lettuce culture, is largely practised in the United States. Such pests as nematoids and the Rhizoctonia fungus are destroyed, and an increase of growth secured equal to 33 per cent. in recorded cases. Of course, great care must be taken not to overheat the soil so as to kill the resting bacteria, else inoculation with fresh bacteria from natural soil must be resorted to.

In a recently-issued Bulletin from the Bureau of Soils, Washington, dealing with the chemistry of heated soils, it is shown that sterilisation induces the formation of both beneficial substances (guanine, for example) and harmful ones, and that for a certain length of time the harmful compounds overbalance the good effect of the beneficial. This explains the results obtained by Pickering in 1908, that seeds on heated soils germinated very badly indeed. Russel and Petherbridge have been recently engaged in an investigation on "sickness" in greenhouse soil in association with market-growers in the Waltham Cross district, London; but reference to this and other experiments dealing with more intimate details of sterilisation procedure must be held over until another opportunity. D. Houston.

Royal College of Science for Ireland.

ROCK AND WATER GARDEN.

SOME UNCOMMON ALPINES.

The following notes contain a list, with cultural hints, of some good alpine plants that are not too well known, but which are worthy of extended cultivation:

Centaurea stricta.—The smallest and the gem of the genus Centaurea, and very suitable for the rockery, being about six inches high, with pretty blue flowers arising from silvery grey foliage. It loves a well-drained position, and increases readily by runners.

Felicia abyssinica.—An extremely beautiful little composite shrub about nine inches high, with fine feathery foliage, from which arise elegant pale blue flowers. It is very continuous in flowering, and loves a sunny spot.

Oxalis Lasiandra.—A gem for a shady position on the rockery. Its beautiful coppery foliage is very striking, being spotted with black. It has beautiful pink flowers, standing about one foot in height. It thrives well in very sandy soil.

Veronica Teucrium dubia E. C. Bowell.—A beautiful pink form of our common prostrate Veronica. It thrives well in any sunny position, and will be a great acquisition for the rock garden.

Anthemis Hauschnechtii.—For a white silvery foliage effect this takes first rank among all alpines I know. As it is not deciduous, it gives this beautiful effect all the year round on a well-drained, sunny position. It is about one foot in height, and has a charming yellow flower.

Lathyrus cyaneus. — The smallest of all perennial Everlasting Peas, with blue flowers, and only about six inches in height. It flowers in April, and is a very desirable plant for the rockery. It does best with me in half shade, which brings out its true beautiful blue.

Cheltenham. E. C. Bowell.

A LITTLE-KNOWN GENTIAN FROM ASIA MINOR (GENTIANA FREYNIANA).

A FREE-FLOWERING GENTIAN.

(Gentiana freyniana.)

How beautiful are the patches of intense blue made by alpine Gentians in their mountainous homes; but, alas, how disappointing Gentians sometimes are in lowland gardens! When planting these gems of the High Alps, they should be tried in different parts of the same rock garden, for it often happens that they succeed in one spot and dwindle away in another for no obvious reason, and this is notably the case with Gentiana verna, the most beautiful of all Gentians. Now and then one hears complaints about Gentiana acaulis, owing to the paucity of blooms, while it is well known that the intense blue colouring of Gentians in general is never so bright as when seen in the pure atmosphere of their mountain homes.

There are many forms of the Gentian in cultivation, most of which are suitable for the rock garden. One catalogue gives no fewer than forty-two species and varieties, but one might look in vain in nurserymen's catalogues for any mention of G. freyniana. This obscure and comparatively rare species is not unlike its near relative G. septemfida. The flowers are of intense blue, and the profusion in which the clusters are borne is clearly depicted in the accompanying illustration, taken in the rock garden at Kew. The home of this little-known Gentian is in the mountains of Asia Minor, and so far as it has been tried in this country it promises to give a plentiful supply of flowers that may be relied upon in successive years. The flowers are seen at their best about mid-July, and when better known this profusely-flowered Gentian will be looked upon as quite an acquisition for the rock garden. A sandy loam forms a suitable medium, but, like other Gentians, it resents disturbance at the root.

THE FLOWER GARDEN.

DAFFODILS AT VINCENT SQUARE.

March 18.

(*Continued from page* 164.)

I BROKE off my notes on the flowers exhibited on March 18 to include two items of news which I felt sure would be of much interest to Daffodil people. Going back to Mr. A. M. Wilson's group, I must not omit to mention that it contained the one flower that received an award of merit. This was Judith, an early giant Leedsii with a rather pointed-looking perianth and a good long stem. It was probably this feature, combined with its earliness, that weighed more than anything else with those who voted in its favour. Beryl was also up before the committee. A remark of one of the big men on this body has provided me with a good deal of food for reflection: "No, Mr. Chairman, you cannot give an award to such a small flower; how can you?" Poor little Beryl! Had you only been larger, this giant would have voted for you. It seems a bit hard on the small folk, this worship of size. I do the same myself in some things, I know. I like a turkey better than a snipe, but that is because life is too short to spend unnecessary time in picking bones. Beryl had refinement, exquisite texture, pleasing shape, regularity of outline, and novelty of type (inasmuch as it is a cyclamineus hybrid), but it had not the one thing needful—size. Probably a good many readers will not agree with me about the turkey and the snipe. I would, however, like to know what they think about size in Daffodils, because, when I am called upon to judge, I feel that I am bound to pocket as far as possible my own personal leanings, and that I must try to give my rulings with due regard to the unwritten consensus of expert opinion. Letters from those interested would be most instructive if the Editor can find room for some.

Messrs. R. H. Bath's exhibit was chiefly interesting because it included a fair number of home-raised seedlings. Two white trumpets and a soft yellow one were quite first-rate. Mr. Leak, the manager, not only knows a good flower when he sees it, but he evidently knows how to make one. Two of the named varieties appealed to me very much: (1) Golden Dustman, which may be called a glorified Santa Maria with all its charm of shape and rich colouring, and with this valuable addition, a do-anywhere constitution, which I am sorry to say its prototype lacks; (2) Dream, a small but very refined Dutch seedling, which under glass comes nearly white (size 3¼ inches by 1¼ inches by 1 inch). Miss Currey bought probably the most beautiful show flower that we have of this type when she acquired White Knight from Holland. The present variety cannot compete with it for this purpose, but for pots it must be very dainty. I think the price is somewhere about five shillings, so most of us will have to wait for it a little longer. Here and elsewhere in the hall was to be seen a vase of my favourite Bernardino. Every year it seems to grow on one more and more. I can recommend it not only for its exquisite beauty, but also for its grand constitution and power of increase.

A MAGNIFICENT BLOOM OF THE LATE-FLOWERING DAFFODIL THE DOCTOR.

Seedlings occupied a considerable space in Mr. F. Herbert Chapman's group. A single bloom of Tennyson was one of the nicest things there. I was told I had once described it as a very gentlemanly flower. So it is. There is nothing obtrusive in its composition; everything is just right. Shrove is a curious, rather delicate-looking bloom, which somewhat reminded me of Dawn, with a pale primrose perianth and a citron-coloured eye, large and smooth, and as flat as a pancake; hence, I am told, "Shrove." Oh, these names! What are we coming to? My Celtic friend, Mr. Watts of St. Asaph, unfortunately (shall I say?) for us had an ancestor, Dr. William Owen, who was the author of our standard Welsh Dictionary and Grammar. Filial piety, no doubt, suggested its use when naming seedlings, and there they were in the hall, a whole batch of them—incomparabilises of various shapes, sizes and colouring, each little stranger with a nice little name, just as Welsh as itself. Cenig, Brevan and Hengan were the ones I liked best, the first being a large starfish-shaped self flower of a pleasing shade of yellow, with just a narrow band of red round its edge; Brevan, a soft yellow after Autocrat, and Hengan, a soft yellow after Frank Miles. One ugly-looking trumpet was called Defol. Our friend evidently does not agree with Miss Marie Corelli's presentment of that gentleman in one of her most famous novels to give this flower such an appellation. Beware of these innocent-looking names!

Robert Sydenham, Limited, had a good vase of that large pale incomparabilis Victory and that ultra-refined-looking Miss Leeds. Both are good for the show table, but as I have not grown them myself I can say nothing about their garden properties. A small 5½-inch pan of splendidly-grown N. triandrus calathinus, with ten bulbs in it, was one of the most delightful things in the show. Each bulb sends up one stem, seldom more, and each stem bears two large white, pendulous flowers, in shape like the better-known triandrus, but far more beautiful. If a small cold frame could be given up to them, there is no reason why they should not be raised from seed, which they produce in abundance if they are helped by a brush; at least I suggest it is, as the Scotch minister said, "an experiment well worth trying."

Messrs. Cartwright and Goodwin, as remarked last week, had some of their own seedlings on view. They were nothing very remarkable, with the exception of a much-frilled and irregularly-shaped giant Leedsii. One would like to see it again next year, as floral committees often say. In Marshlight they have annexed some bulbs of a very striking flower. I call it an intensified Lucifer, and if only its deep red cup will hold colour like that variety, it will be a fine garden plant indeed. Mr. Wilson, who holds the bulk of the stock, is sticking to it, and it takes a tempting offer to make him part. *Solvitur ambulando.*

Mr. Christopher Bourne had not the same array of novelties as he had a fortnight earlier. The highly-coloured Poetaz Scarlet Gem occupied a central position in the group. Its all-red cups and strong yellow, flat perianths give it a remarkable appearance. When one thinks of this and Mr. Wilson's Rubellite, one begins to realise the changes that

are taking place in this section. Below Scarlet Gem and equally prominent were two particularly fine, large, yellow trumpets, The Earl and The Doctor. They were a striking contrast in colour and shape. The Earl was a rich deep yellow self with a trumpet the exact counterpart of a King Alfred and a real obvallaris-looking perianth, but, of course, greatly enlarged. A very fine thing. (Size, 4¼ inches over all; trumpet, 1⅜ inches long by 2 inches wide at the brim.) The Doctor was much paler in colouring, a sort of yellow bicolor, with a soft yellow trumpet and a deep primrose perianth of exquisite texture. The bold trumpet reminded me of Glory of Leiden with a recurved brim, while its perianth was pointed and overlapping and inclined to incurve like it does in Frank Miles. (Size, 4¾ inches by 2 inches by 2 inches.) It is a very late bloomer, and of great value on this account. I think it was about the only yellow trumpet shown in the competitive classes at Birmingham last year. The bloom of The Earl was from the open, and that of The Doctor from a cool greenhouse; hence their appearance on the stage together. They were fine examples of their respective types. Joseph Jacob.

PRIMULA PURDOMII, A NEW SPECIES FROM CHINA WITH PALE LILAC FLOWERS.

PRIMULA PURDOMII.

New Primulas continue to arrive, and the latest introduction is P. Purdomii, collected in West Kan-Su, China, by Mr. W. Purdom on behalf of Messrs. James Veitch and Sons. As described in last week's issue, page 163, the flowers of this new and very distinct species are pale lilac and delightfully scented, while the foliage is densely covered with the white mealy substance known as farina. The great point about this welcome Primula is that there is every reason to hope that it will prove hardy.

BEAUTIFUL BORDER FLOWERS.

(The Heucheras.)

The genus Heuchera, commonly known as Alumroot or American Sanicle, was first introduced into this country in 1656 from Northern and Western America, but it is only of recent years that the plants have been used to any great extent for ornamental purposes. H. sanguinea, a species from New Mexico, introduced in 1822, is by far the best and the origin of many of the fine forms now grown, although very few of them equal the type so far as colour goes, but are of a more free-flowering habit.

They are excellent subjects for the herbaceous borders, the wild garden, and even the rock garden, making a fine show from May until the end of July, and some continue to flower on until October. Apart from their flowers, many are worthy of a place for their handsome foliage alone. The flowers are also of great value for cutting, being light and graceful and remaining fresh in water for a considerable time.

Heucheras require an open, sunny position in ordinary light, rich or peaty soil, but will not succeed in pure sand or heavy clay. They are easily propagated by seed, sown almost at any time in a cool frame and pricked out when large enough, or by division of the crowns from March till May, the pieces being placed in sandy soil in a warm, sheltered corner and left till the autumn or following spring. By then they will have made good plants for putting in their permanent quarters. The latter method is advisable, as Heucheras hybridise so freely that seed cannot always be relied upon to come true.

A few of the best are H. sanguinea, H. s. rubris, H. s. Profusion, H. s. alba, H. s. splendens, H. grandiflora, H. micrantha, H. brizoides, H. b. gracillima, H. Rosamund and H. zabeliana, all of which are worthy of a place in every garden. F. G. P.

SIX ANNUALS THAT MIGHT BE MORE GROWN.

I suppose a captious critic in reading my heading might ask, "Why limit it to six; all annuals should be 'more grown'?" But the six I propose to call the attention of readers to in these notes are not yet to be found in every garden, and while I should hesitate to label them uncommon, they might with advantage be more frequently seen.

Cosmea or Cosmos: New Early-Flowering Varieties. — The word early-flowering is important. There is no comparison between the effectiveness of these new varieties and the old Cosmos, which with difficulty was induced to flower at all before October, whereas these new kinds are in full flower in July and continue right up to the first frost. There are three kinds — White Queen, Rose Queen and Crimson King. The first two are excellent varieties, with flowers 3 inches across, borne on long stems on plants that reach 4 feet in height, with foliage that is very useful for vase and table decoration. Crimson King I found was not quite fixed either as to colour or shape of flower, and it was also later coming into bloom; so I am only here recommending White Queen and Rose Queen, and if one only is to be chosen, I prefer Rose Queen. Messrs. Dobbie have obtained an award of merit from the Royal Horticultural Society for both of these varieties. Coming from Mexico as they do, one would hardly have expected the moist weather of last summer to have suited them; but they did excellently here. A soil not too rich in manure should be given them; otherwise too much foliage is produced at the expense of the flowers. I sowed under a frame in March, boxed them in April, and transplanted in May to their flowering quarters. No heat is necessary to raise them, and the seed germinated very freely.

Arctotis grandis, another delightful composite, this time from the Cape, can be treated in exactly the same way. The plants are low-growing, foliage grey in colour, and tomentous or hairy. The flowers are produced on very long footstalks. They are pure white on the inside of the petal, with a wonderful blue-centred eye that brightens the silvery sheen of the petals. These latter are delicate lilac blue on the under surface. The

flowers are Marguerite-shaped, some 3 inches across, last a long time when cut, and are very beautiful. Last year suited them, as they like plenty of moisture.

Linaria marocana Excelsior.—This is most useful either in the border, where it grows 18 inches, or on a dwarf wall, where, I think, it is at its best. The number of colours one gets is astonishing. The flower itself is Snapdragon-shaped in miniature. Some of the combinations are very pretty—purple and orange, light and dark blue, two shades of pink, yellow and white, dark crimson and yellow, pale lavender and yellow, pure white and dark violet. It should be sown thinly where it is to flower in April, and is smothered in blossom right up to the end of October; in fact, I had some flowers out at Christmas on a sheltered corner of the dwarf wall. A threepenny packet will give you hundreds of plants.

Omphalodes linifolia.—A Portuguese Forget-me-not with grey-green foliage and purest white flowers, sometimes called Venus' Navel-wort, I believe from the shape of the seed-vessel. Sown thinly where it is to flower, only just covering the seeds, it grows about twelve inches to eighteen inches high, and makes a pretty little bush some six inches or nine inches through. It is a very old favourite with me, the foliage making a nice cool spot to rest the eye on. It seeds itself very freely, and if these are not disturbed, they will flower early in the year and make much bigger plants than the spring-sown seeds.

Platystemon californicus.—A Californian Poppywort, but there is nothing gross about this delightful little plant. Growing some 6 inches to 9 inches high, it forms a tuft, sending out its buds and flowers on 6-inch stalks. The colour is a cool cream yellow, the flowers about the size of a sixpence, with a lovely array of stamens in the centre. The flower in shape reminds one of the Grass of Parnassus; here again we have glaucous grey-green hairy foliage. Sown in March or April where it is to flower and well thinned, it makes a charming picture. Useful for the rock garden or dwarf wall, or for the border. It flowers in June, and generally flowers itself to death by October. It seeds itself freely. I have never heard any garden name for this plant. Is there one? It should be something with cream in it!

Ionopsidium acaule.—A pretty little Cress from Portugal rarely growing above 2 inches high. It is used here for the crevices of the paved walk and dwarf wall. Quite hardy; in flower all the year round—even as I write. Its delicate pale lavender, cruciform flowers are always welcome. It prefers a damp spot and sows itself freely, the plants flowering within two months of sowing. If sown in September, it could be used to carpet bulb-beds; if in April, it will be in flower by June. If thinned out, the plants will get quite a respectable size, but I like the small ones best. Another annual of somewhat bigger habit, but still on the small side, and one that can be put to similar uses, is **Saxifraga Cymbalaria**, I believe the only annual member of this large family. Small, Ivy-shaped leaves, it forms a tuft, very neat growing, some three inches high, and is covered with scores of its little golden yellow flowers all through the summer. Quite hardy, it also is in flower from self-sown seedlings as I write. It prefers a moist spot; at least, it is flourishing on a moist piece of rockwork; but this is not one of the six, and perhaps would not appeal to everyone, as I believe the others will.

Southampton. HERBERT E. MOLYNEUX.

TULIPA CLUSIANA.

This charming and dainty Tulip has found a resting-place in British gardens ever since the early years of the seventeenth century, for it is figured in Parkinson's "Paradisus," and also in the second edition of Gerard, under the name of T. persica. In common with certain other species, it seems to have been for a long time neglected, and possibly it quite died out. In the latter years of the eighteenth and at the commencement of the nineteenth century it was hardly ever met with, and when it was illustrated in the famous *Bot. Mag.* (the colloquial way of referring to the *Botanical Magazine*), it was said to be "very rare." On Plate 1390 of that publication there is an excellent illustration showing the rosy red flame up the centre of the exterior of each petal, and the deep claret eye of the pure white expanded bloom. It is worth turning up, if the volume is handy, to compare it with the colony seen in the above illustration. Speaking from memory, I should say it grows from 9 inches to a foot in height. I have had it growing in light, sandy soil in my garden for some years without any particular attention, and find it lives all right, but that it only increases slowly, if at all. Its places are nice warm pockets on the rockery and the front rows of herbaceous borders. In either it looks well. It is hard to say whether it is more taking in the bud or when the flower is fully expanded. It is always slender and graceful, taking and charming. No, readers, I am not wandering; it is still a Tulip that I am describing; but it is one we gardeners all love and admire. It is "The Lady Tulip." Never was flower more appropriately named. JOSEPH JACOB.

A FINE COLONY OF "THE LADY TULIP" (TULIPA CLUSIANA).

SWEET PEA NOTES.

It is acknowledged to be the right of an Englishman to grumble at everything, and when all else fails him, which is very seldom, he falls back upon the weather. The things which he says of it would, if only approximately true, make it impossible to grow a single plant in our gardens; but, happily, there is much exaggeration, and, despite the badness, successes are achieved every year that make the worker in other lands, where the conditions are supposed to be ideal, decidedly envious. Without claiming that our climate is perfect, or even near that extraordinary state, it is my opinion that there is not much wrong. In some districts the conditions may be bad, but in another they will be good; and as afflictions in this particular direction rarely visit us in the same manner year after year, we all get our share of the best as well as the worst, which is quite fair.

Immense numbers of words have been wasted over the weather this season, and, according to the pessimists, everything is bound to fail. Sweet Peas have never suffered such a terrible time. Roses have been entirely ruined, and so on; but when the time comes to show them to our friends in the garden and against our rivals in the show, it will be found that quality and quantity are there. As far as Sweet Peas are concerned, my experience is that they are looking wonderfully well, and that the year will be an excellent one from all points of view.

Planting.—The important cultural task of the month is planting out the stock raised from seeds sown under glass. There are many thousands of plants in small pots, big pots and boxes, and all will have to go into their flowering positions about the middle of the month. Assuredly some cultivators who are not believers in the rule to "Hasten slowly" will have put out their plants before this date, but whether they gain thereby is doubtful. It never seems to me that the considerable risk involved in very early planting is worth taking. What does one gain by planting at the end of March as compared with planting at the middle of April? Nothing, and one runs the risk that the plants will be brought to a complete standstill, which is a state that the Sweet Pea detests. As a rule, we can feel sure that if the plants are put out when the soil and the weather

are excellent about the middle of April, they will not cease progression even for a very short time.

Assuming that the soil has been fully prepared some time ago, we shall wait only for the favourable weather to accomplish our task. If the plants are splendidly rooted, as they certainly ought to be by now, and they are firmly planted in very deep holes, satisfactory advance is assured. Where the seeds were sown in pots, it is almost always wise to separate the roots, as there is a danger that they will have matted so hard that they will never get freely away from the ball if the planting is intact. Where the plants have been in deep boxes with plenty of space between them, it is improbable that this will have occurred, and planting can be done with plenty of soil on the roots, though it is doubtful whether that is an advantage or not.

Those who dread the so-called streak will be well advised to shake all the soil from the roots and rinse them in a weak solution of permanganate of potash, and to spray the plants once, twice, or thrice with the same solution after they are established in the ground. The extra careful cultivator who has suffered losses in previous seasons will go further and give the soil a soaking a few hours before planting, and he may use 1oz. to the gallon of water for this purpose, whereas half that quantity will do well for the roots and for the plants. As it is known that the disease is most prevalent where heavy dressings of natural manures and over-generous applications of nitrogenous fertilisers have been employed, it is to be hoped that amateurs have restrained their common tendency to give excessive amounts under the erroneous impression that it is only on heavily-manured land that Sweet Peas will grow to perfection. The contrary is the case if perfection spells quality, as it should do.

1.—A HYBRID TEA ROSE BEFORE PRUNING.

THE KITCHEN GARDEN.

POTATOES THAT RESIST WART DISEASE.

The report for 1912 of the Harper Adams Agricultural College, Newport, Salop, contains some interesting particulars of Potatoes which have been tested at the college and other centres in the district with a view to ascertaining their immunity from wart disease, which is very prevalent in Shropshire. We quote the following remarks, which apply to varieties that had not been previously tested by the college authorities:

"Of the early varieties none can be recommended as suitable for general cultivation, each being deficient in some respect—colour of flesh, quality, or cropping power. Among the second earlies, Entente Cordiale and King George V. are the best, the former being the better in quality. A considerable number of maincrop varieties proved to be resistant, but few of them are suitable for general planting. Great Scot is undoubtedly the best of the varieties grown, and as it withstood the wet season well and was practically free from Phytophthora, it should be planted extensively as soon as the price is right. A variety not widely known is Culdees Castle. The tuber is well shaped, eyes shallow, and the plant vigorous, while the quality is very high. Irish Queen is a good firm Potato, but the eyes are rather deep and it is not of the type in request in English markets. St. Malo Kidney is of good shape, but the quality is not very high and it suffered considerably from Phytophthora. It is difficult to distinguish this variety from Reading Giant. Dalmeny Sun and The Lochar are also good croppers of good quality and very free from Phytophthora, while Flourball is well known as a Potato of excellent quality. Only a few Continental varieties proved to be resistant, and these left much to be desired."

GLOBE ARTICHOKES.

Although these plants will continue bearing heads for several years in succession without being disturbed, after two or three seasons the crop is not so good as that produced by younger plants. These are easily raised by seeds or suckers, the last method being that most commonly practised, and if detached from the old stools with care and planted during the end of March or early April a very serviceable crop of tender heads will be produced after the older plants have ceased bearing thus prolonging the season for several weeks. Artichokes delight in a deeply-broken-up soil, with plenty of manure added. Plant the suckers in lines and in clumps of fours, watering them well, should the weather set in dry, till they become established. The roots of Artichokes require ample nourishment, and in dry weather copious supplies of manure-water will be useful. H. Markham.

THE ROSE GARDEN.

THE PRUNING OF ROSES.

(*Continued from page* 160.)

THE HYBRID TEAS.

The Hybrid Tea Roses vary greatly in habit, some very nearly approaching the Hybrid Perpetuals, others merging into the Teas, while in other directions we find varieties closely resembling the China Roses, and, again, others approximating to the Noisettes. Besides the difference in the character of the growth of the

2.—THE SAME HYBRID TEA ROSE AFTER PRUNING.

plants, there is great variation in the character of the flowers. Some carry large exhibition flowers, where form and quality will be the main consideration; others, numerous and medium-sized flowers of some substance; then there are varieties with comparatively few petals or semi-double blooms, single-flowered varieties, and varieties carrying loose clusters of bloom. Some, like Mme. Ravary, are short-stalked; others, such as Liberty and Mme. A. Chatenay, readily give flowers on long stalks. Again, the position in the garden becomes of importance, also the character of the soil. As a rule, a sunny position and light soil will favour floriferousness, while a heavy soil or partially-shaded situation has a tendency in some varieties to foster the production of foliage at the expense of flowers. All these matters should be considered by the pruner, as well as the age and previous culture of the plants. John Ruskin, Gladys Harkness, Charles J. Grahame and W. E. Lippiatt are among those which approach the Hybrid Perpetual in habit, and may be pruned exactly in the manner described with regard to them.

Those Hybrid Teas which in their second growth are apt to push up a single strong shoot often present difficulties to the beginner. On the principle that the stronger the shoot the longer it should be left, it is not uncommon to see this strong stem left long, the others being much reduced. A common result of this treatment is to find one of the higher buds only on the strong shoot starting away, as though the plant was

endeavouring to pursue the method of growth it had found successful during the previous summer. Other things being equal, I think this is a mistake. The case is exactly that supposed by M. Forney in his third axiom of pruning. He says we give vigour to a branch by leaving it long, if all the other branches are pruned short. The long branch dominates the others, and, being higher and furnished with a larger number of eyes, it attracts to itself all the sap. Now, in the case supposed, the strong branch has already made the tree one-sided by attracting an undue proportion of the growth of the previous summer. By leaving it long and shortening the others, we still further accentuate this result. Our object should be exactly the opposite to this, namely, to correct the balance of the tree, and to do this the strong shoot should rather be reduced to less than the others than allowed to exceed them. In fact, it should only be left longer than the rest when some system of pegging down can be applied to it. Fig. 1 represents a Hybrid Tea Rose before pruning, and Fig. 2 the same Rose after being rather lightly pruned. Pruning to the extent shown in these figures would be about the right amount for a free-flowering, strong-growing decorative Hybrid Tea of the character of La Tosca or Irish Elegance.

The unpruned Rose appears to possess three main stems and an old stump. The old stump will be at once removed, and we are then to deal with a very good young stem on the left of the figure, a fair one in the middle, and one on the right which is probably two years old, but has some of last year's branches proceeding from it. Possibly it may have been left rather long the previous year. However that may be, supposing the Rose we were treating were a full Rose on which we might expect to get some specimen flowers, such as Caroline Testout, Königin Carola, or Pharisäer, the two stems on the left and in the centre should be reduced to about half the length shown in Fig. 2, and we should then tackle the stem on the right of the figure. The first branch from the base crossing to the left should be reduced to about two buds, and we should then examine those going to the right. Choose the best of them and remove all the rest, and then shorten the selected branch to about two, or possibly three, buds, according to their position on the stem. We shall expect to remove the whole of this branch on the right next year, and are only now keeping it to preserve the balance of the tree and in the hope that it may break from its base in the course of the year. At the same time it must be borne in mind that these are merely general directions, any or all of which must give way to considerations arising from the actual condition of the plant, the position of the buds on the stems and the ripeness of the shoots. Again, for pruning some of the tall-growing decorative Hybrid Teas, the directions given here would be quite inappropriate. Such varieties as Grüss an Teplitz, Gustave Regis and, perhaps, Rosette de la Legion d'Honneur do not flower satisfactorily if at all closely pruned. With these, I think, the best plan is to begin by selecting the shoots that are strongest and most desirable to retain; then spur in the side shoots on these to within about an inch of the stem, and remove the other shoots altogether. When this has been done, review the plant as a whole and shorten the retained stems slightly so as to get a fair-shaped bush, and cut away so much of the ends of the shoots as is found to be unripe.

3.—TEA ROSE BEFORE PRUNING.

TEA ROSES.

With many of the Teas the operator may exercise a large discretion in pruning, provided he is careful to notice and remove (1) all wood injured by frost; (2) unripe, sappy growths; and (3) thin spray-like shoots. This proviso, while it applies more or less to all pruning, is of special importance with the Teas. Roses like the pink and white Cochets, Marie van Houtte and Anna Olivier so readily produce basal shoots that the precautions necessary to encourage these with the Hybrid Perpetuals are not required, and they may either be left rather long or pruned hard back, according to the size of the bush desired. Moreover, these Teas can at any time be cut back to the old wood, if necessary, with a fair certainty of their breaking from it, and I have at times thought I have got more vigorous growth from plants of the Cochet type when little pruned than when they are cut hard back. They will do well with either treatment. The more upright-growing Teas, however, and those which are chiefly valuable for exhibition flowers, like Mme. Constant Soupert, should generally be considerably shortened.

Many amateurs at first feel some difficulty in dealing with a much-branched bush of the Tea Rose type. Fig. 3 shows such a plant before pruning, and Fig. 4 the same plant after that operation. It will be noticed, however, that in Fig. 4 the photograph is taken from the opposite side of the plant to that of Fig. 3, consequently

4.—THE SAME TEA ROSE AFTER PRUNING.

the two young basal shoots shown on the left in Fig. 3 appear on the right in Fig. 4. It will be noticed that the pruning has been rather light. It is possible the three thin crossing shoots retained were actually better than they appear in the photograph; but if not, it would generally be better either to remove these altogether or to spur them back to within two eyes of the stem from which they spring. The centre shoot of the fork shown on the left of Fig. 4 might also, in all probability, be taken away with advantage. It is common to find three, or sometimes more, young stems springing from the bud to which the stem was reduced the previous year, and in such cases only two at the most should be retained, and unless they are decidedly riper or more promising than the outer stems, it is generally best to remove those in the centre altogether, shortening back the others.

THE CHINAS

should either be pruned rather closely or very little, and both methods should be practised. By this means we get a greater continuity of flower. The unpruned Chinas begin to flower ten days to a fortnight before those that are pruned, and their second flowering fills in the gap between the first and second flowering periods of the pruned bushes.

THE NOISETTES.

The method of pruning has already been indicated. Choose the stems to be retained and remove the rest; then, if the retained stems have any side branches, spur these in to two or three buds of the main stem. Finally, if necessary, shorten the retained stems somewhat, but not more than is required by the condition of the stems, the place the plant occupies in the garden and the general symmetry of the plant. These directions apply whether the Noisette is grown on a wall, as a pillar, or as a free bush.

THE POLYANTHA POMPONS.

The position they occupy in the garden should generally determine the amount of pruning these are to receive. In beds it is best to plant them closely and cut them to the ground each year. On the other hand, on banks, or suitably placed in borders they may be left to themselves, merely removing dead wood and flower-stalks. I have on a bank three or four plants of Marie Pavie which have been practically untouched for some ten years, and have made nice, round, little bushes some 3 feet to 4 feet high and nearly as much through. On the other hand, Perle d'Or and Cecile Brunner are generally best with at least a moderate amount of pruning. WHITE ROSE.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Sweet Peas.—Whenever the ground is in a suitable condition, Sweet Peas may be planted out. If the site happens to be exposed to wind, the shelter of a few sprays of evergreen, or even short Pea stakes, will help them.

Clumps in Herbaceous Borders.—These are especially effective, but to ensure complete success the stations should be thoroughly well prepared. From five to eight plants will make a good clump, but they should not be planted too close together, nor should they be planted with the ball of soil intact, or they may suffer during a hot spell.

Asters, Stocks and Zinnias.—These I always think make the best plants when sown on a mild hot-bed about the first week in April, as at the time they are large enough to prick off the weather is such that they may be put out in any temporary frame, where a mat may be put over them during the heat of the day, or at night in the event of a very late frost.

Hardening Off Bedding Plants.—Providing we are not experiencing sharp frosts, several of the hardier classes of bedding plants may be removed from the heated to quite cold frames, and thus make room for the tender subjects which are growing and requiring more space almost daily.

Plants Under Glass.

Schizanthus.—Late autumn-sown plants are now rapidly developing their flowers, and will require plenty of water and manure to keep them going, especially if not overdone with pot room. Later batches should be potted on as they require it until the desired size of pot is reached.

Clarkias.—These also are very fast-growing at this season, and if big specimens are required, they may be potted into 8½-inch pots. Providing they have been carefully grown, no stopping is required to induce a bushy habit of growth; but much depends on the treatment in the early stages. A late batch of the two above-named plants may be had by sowing now a few seeds in 2½-inch pots, afterwards thinning to one plant in each pot.

Herbaceous Calceolarias.—These are now developing their flower-heads, and large plants may require a little staking out. Feed regularly, but in quite weak doses. To preserve a good colour in the foliage, regular damping among the plants must be practised, and they must be shaded from all hot sunshine.

Shrubby Calceolarias, such as Clibrani, require similar treatment, but as they are of a much hardier nature, they may be subjected to a little heat to force them into bloom if necessary, or, on the other hand, may be grown in the cold frame till they commence to bloom. Young plants may have the leading growth pinched out, and this will make them flower from the side growths at a much later date and, by the way, make larger plants. These I find most useful for the conservatory.

Azalea indica.—After blooming, these should be placed all together in a house to make their growth. Any repotting required should be done at once. Large shifts are not necessary, and a compost of peat, leaf-soil, sand and a small proportion of loam suits them best. Very firm potting is essential, after which a fairly warm, moist atmosphere should be maintained till growth is well advanced, when they should be hardened off and placed out of doors.

Salvia splendens.—Early propagation of this plant is not necessary, and if good, strong cuttings are put in now and kept growing freely, they will make quite large plants by the autumn. In addition to the old and somewhat taller-growing type, it is as well to grow a few plants of the dwarf ones, such as Glory of Zurich, and these may be flowered successfully in smaller-sized pots.

The Kitchen Garden.

Carrots.—About this date the main batch of Carrots may be sown, providing, of course, the ground is in a suitable condition; if wet and heavy, by all means defer sowing till it breaks down to a nice fine tilth.

Vegetable Marrows.—These should now be sown in pots in a little heat, or a frame may be at liberty on a hot-bed, and if one or two seeds are planted between, say, a crop of Lettuce, they will quickly come along and take the place of the Lettuces as they are cleared.

Gourds.—Many varieties of these are edible as well as ornamental, and if treated as Vegetable Marrows they will succeed admirably in any warm garden, though for decorative effect they should be trained on posts or over pergolas.

Peas.—Continue to sow Peas for succession about every fourteen days, varying the quantity according to the requirements of the establishment.

Asparagus.—The present is a very suitable time for sowing seed. This may be sown where it is to remain as a permanent bed, or in some position from which the plants can be removed to a permanent bed in two years' time. Two year old plants may be transplanted now, having previously prepared the bed by trenching and manuring. Asparagus plants suffer very much if the roots are left exposed to wind and sun for any length of time, so such work should be carried out as expeditiously as possible, covering the young crowns to the depth of about three inches with fine, light soil.

Fruits Under Glass.

Strawberries.—Ripening fruit should be given as much light and air as is consistent with the state of the weather, thereby adding flavour to the fruit. Cold draughts to the plants must be avoided, or mildew is likely to result. This latter may be sometimes avoided by spraying the plants with a little sulphur and soft soap before the fruits have attained any great size.

Early Peaches in pots or planted out that have passed the stoning stage should now be gone over, taking off any surplus fruit. Rather more warmth may now be given, and a thoroughly good feed of Le Fruitier or some such manure well watered in should set them swelling away, freely repeating the dose in from fourteen to twenty-one days.

Thomas Stevenson.
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Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Pentstemons.—Those raised from seed will not be fit for planting out for some weeks, but named varieties or selected seedlings raised from cuttings last autumn should be planted now. The Pentstemon requires liberal cultivation to do it well; therefore I would advise giving the ground a dressing of soot, fowl-manure, or bone-meal prior to forking it over.

Antirrhinums.—Seedlings should now be ready for transferring to cold frames to be hardened off. Autumn-struck cuttings should now be planted out.

Sweet Peas.—The pots or boxes may now be taken from the frame and stood in some sheltered position where they will get the full benefit of the sun and air.

Gladioli.—Dormant bulbs should now be planted. On most soils it is advisable to give these showy border plants some special soil of a light, rich nature. If planted in lines, a good plan is to draw a drill as for Potatoes, place a little of the prepared compost in the bottom, plant the bulbs at a foot or more apart, and partly fill the drill with more of the special compost. Brenchleyensis, Childsii and Hollandia are all good for massing.

Chrysanthemums.—Cuttings put in a few weeks ago will now be ready for boxing off or potting off into small pots. Place them at once in a cold frame and keep close and shaded for a few days, after which beware of coddling.

The Rose Garden.

Digging.—The beds and borders should be dug over with the digging-fork, so as to aerate the soil and give the quarters a tidy appearance. Where dry earth was drawn up to the stems of the plants as a winter protection, some well-rotted farmyard manure should be given, and where manure was used for protection, the ranker part of it should be removed and the remainder dug in. Light dressings of lime and wood-ashes will also be found beneficial.

The Rock Garden.

Taking Stock.—This is one of the gayest months in the rock garden, and is a good time to take notes as to any proposed modifications in the disposition of the plants for the future. It is also a good time to make notes as to discarding, wholly or in part, varieties already in possession or for the purchase of new stock. Lovers of the cult should keep their eyes open at the Edinburgh Spring Show next week.

Plants Under Glass.

Ferns.—The young succulent fronds of several of the species have a great fascination for slugs and woodlice. The Maidenhairs are prime favourites with them. Young Lettuce leaves will attract slugs, and woodlice can be caught when sheltering under half a Potato scooped out with an aperture for admission. At night, with a candle in hand, is the time to catch the enemy red-handed. Precious gems should be stood on a small inverted flower-pot stood in a "flat" filled with water.

Winter-Flowering Begonias.—Newly-rooted cuttings must be potted off into 2-inch pots, using a light, open compost, say, fibrous loam, peat and leaf-mould in equal proportions, with a dash of sharp sand and pounded charcoal. It will be an advantage if the pots are plunged in Cocoanut fibre or flaky Beech leaf-mould; this will keep the temperature and moisture equable at the roots. Supply sufficient atmospheric moisture, and spray lightly morning and afternoon.

Camellias.—These favourites of long ago have regained some of their popularity, but the improvement in their favour is so recent that few large specimens are to be seen. They will now be out of flower, and should enjoy some rise of temperature while making their growth.

Fruits Under Glass.

Melons.—In early houses where the crop has been set, no time should be lost in supporting the fruits, or damage may ensue. Many devices—wicker-work, canvas and twine—are adopted for this purpose; but nothing, I think, equals the light, inexpensive nets sold for the purpose.

Second Thinning of Grapes.—Where the first thinning was done carefully and skilfully, this is an easy operation. It should be taken in hand two or three weeks after the first or principal thinning, and must be carried through with care, as the berries are apt to be pierced by the points of the scissors. If a cloth is spread under the bunch being operated on, the thinnings can be utilised for tarts.

The Hardy Fruit Garden.

Hoeing.—The quarters which were pointed over a few weeks ago will now be weathered, and will be in good condition for hoeing. The operation will both produce a fine tilth and check the weeds, which begin to assert themselves about this period. I would here again remind the inexperienced that it is necessary to keep a sharp look-out for frost and promptly drop the nets in front of fruit trees in flower on walls.

The Kitchen Garden.

Autumn-Sown Onions.—Many cultivators still make an autumn sowing, Trebons being the favourite variety, and good, useful crops—generally immune from the fly—can be produced by this method. Now is the time to transplant either the whole crop or only the thinnings. It is taken for granted that the ground was well manured and deeply dug in autumn or winter. Apply a dressing of pigeon or fowl manure and fork it in, after which, if the soil is light, tread it firmly and rake over. Lift the plants carefully by means of a fork, and plant to the line with a dibble. Adjust so that the bulb will rest on the surface of the soil. Water after planting, allow a distance of 14 inches between the rows, and plant 6 inches apart in the row.

Late Potatoes.—These must now be planted forthwith. Their name is legion and it is dangerous to dictate, but one has no hesitation in recommending such varieties as Table Talk, The Provost, The Factor and Golden Wonder. Allow 2½ feet between the drills, and plant 15 inches apart in the drills. Sow a little soot and Cross' Garden Fertiliser along the drills.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

SEASONABLE NOTES ON CARNATIONS.

Time was when all our Carnations were layered in the summer, and later on transferred to the positions in beds and borders where they were wanted to flower in the following year; and at the risk of being dubbed old-fashioned I am bound to confess that in my opinion such plants flowered far more satisfactorily than those that are now wintered in cold frames and put into their permanent quarters this month. One would not suggest that all varieties, in all soils and in all situations, should be left to take their chance out of doors in the winter. Unfortunately, the day for this has gone, because the modern varieties of most conspicuous merit are indubitably more tender of constitution than the majority of their predecessors. It would, however, be well if more stock was tried under the older system, as it would probably be found that many plants which are now popularly regarded as of doubtful hardiness would safely withstand the weather, and no steps are taken to prove the fact or the contrary.

Plants wintered in 3-inch pots in cold frames miss that chance to develop a perfect rooting system which those planted out always enjoy, and the consequence is that they are not so likely to make vigorous, healthy, floriferous plants in the summer months. The cramping of the roots in a restricted space, with the tendency to harden round the porous sides of the pot, cannot be overcome, and the effect must be distinctly prejudicial to the eventual results.

It does not appear to me that there is any sound reason why half the stock at least should not go into the open ground, the remainder being potted to winter under cover. The objection to this is, of course, that some of the choicest varieties do not produce a great quantity of "grass" suitable for layering, and that the method might, therefore, end in disastrous loss. This is true, and the specials might be dealt with in the more careful manner and the generalities treated more hardily, according to circumstances. The risk would be far too serious in excessively cold soils, but in thoroughly-drained gardens with naturally warmer soil the risk would be slight, if any. These things are, however, matters for future consideration. What we now have to put in hand is the planting out, and it ought to be done as soon as possible; but one should not rush it to the extent of putting the roots in a medium that was obviously in a totally unsuitable state.

Carnations are appreciative of a soil that is in good heart, but it cannot be claimed that they welcome fresh manure near their roots, or that they are markedly responsive to very generous dressings of artificial or chemical foods. Used in moderation these will prove advantageous, but the least excess will inevitably lead to trouble and disappointment. One fact is incontrovertible, and that is their decided partiality for lime in some readily available form. Unless this mineral is present, the plants do not assume that aspect of rude health which one likes so much to see, nor do they produce flowers of such outstanding excellence of quality. As far as the present is concerned, the readiest way of providing the essential lime is in the form of old lime or mortar rubbish crushed to a state approaching gritty dust, and this may be freely added where a shortage is suspected. The usual system is to dig it into the station prepared for the reception of the roots; but where the quantity at command will permit of it, more satisfaction accrues to broadcast it over the entire bed or border and dig it in. There is then less concentration, but the plants never fail to secure the full benefit of the dressing.

When planting, the soil should be deeply loosened and made firm again. Unless it is known to be quite sweet, it is wise to put in a layer of fresh loam for the roots to rest upon, and if they can be packed in the same material, so much the better. In any event, they must be firm without being so tightly fixed that extension is impossible. If birds are known to do injury, it will be well to put black thread or cotton over the plants. The surface must be frequently lightly pointed over as well with these as with plants that have wintered out of doors. F. R.

NOTES ON AURICULAS.

A mild winter has caused Auriculas to become more advanced in growth than is usual at this time of the year. Many plants are showing good trusses fairly well advanced. In the green-edged section these should be encouraged, as they are more slow in opening; this applies particularly to such notoriously slow growers as Mrs. Henwood.

Acme, among the white edges, is in a forward state, and wherever this is so it will be well to give the plants cool quarters in order to delay them opening quite so soon, but at the same time do not let frost touch them. Cover frames with mats as soon as the sun goes down, and keep as warm as possible at night by keeping out cold, not by applying artificial heat.

Selfs are in a forward state, and if mild weather prevails will need to be kept cool if the best flowers are to be seen in good form at show-time. I am writing from the point of view of an exhibitor at the shows. By keeping cool I mean shaded from bright sun during the warm part of the day.

Disbudding should be done as early as the state of the pips will allow. Do not let the plants suffer from lack of moisture, but at the same time guard against excessive watering. Alpines are coming along well, and, providing we do not get an April with the weather and heat of midsummer, as was experienced last year, very good blooms should be seen at the shows this year. G. J. S.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* Editor *of* The Garden, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

VIOLET LEAVES FOR EXAMINATION (*L. C. F.*).—The Violets are affected by the fungus Homodendron cladosporioides, which is the parasitic form of Cladosporium herbarum. It is usually only leaves that have been weakened by some uncongenial conditions that fall victims to this fungus; but, at the same time, it does much harm itself. All attention should be given to drainage and ventilation, and the plants should be sprayed with potassium sulphide, 1oz to three gallons of water.

PÆONIES AND VIOLA (*H. J.*).—The herbaceous Pæony is one of the hardiest subjects so far as its roots are concerned (occasionally the flower-buds suffer from the effect of late spring frosts). The occurrences are rare, however, and even then only a bud or two may be affected. You cannot plant Pæonies at this season with success. Viola Mrs. C. F. Gordon is a fancy bluish purple in colour, with a lavender blotch on each petal. These markings are constant in some districts and variable in others. Mrs. F. W. R. Johnstone, Cottage Maid and Countess of Kintore are other blotched varieties.

EARLY-FLOWERING CHRYSANTHEMUMS (*C. W. E.*).—The following are good and reliable sorts: Abercorn Beauty (orange, shaded bright crimson), Blush Beauty (blush), Horace Martin (yellow), Chatillon (orange and ochre yellow), Goacher's Crimson (rich crimson), Mme. Casimir-Perier (creamy white and pink), Mme. Marie Massé (lilac mauve), Mrs. A. Willis (yellow, shaded and striped red), Nina Blick (bronzy red), Roi des Blancs (pure white), White Massé (white, sometimes tinted pink), Perle Chatillonaise (creamy white, shaded peach), J Bannister (lemon yellow, shaded bronze), Claret (bright claret) and Dame Blanche (pure white).

BLUE-FLOWERING PERENNIALS (*Emelie Behm*).—The great period of blue in the garden is June and July, when Iris, Delphinium and Anchusa are giving a rich display; after that time we have to be content with minor subjects, the best of which are Galega His Majesty, Erigeron speciosus, Aster acris, A. Amellus, Campanula carpatica, C. Riverslea, C. lactiflora cærulea, Eryngium oliverianum, E. amethystinum and Veronica subsessilis. You might introduce each year a few plants of Salvia patens, and A. azureus grandiflorus, which is hardy. There is also the so-called race of blue herbaceous Phloxes, which are of violet and rich purple shades; Iris, Le Mahdi, Gloire du Marc and Violet are some of them, and, planted in groups apart, they are singularly effective and good.

IRIS AND STONE WALL (*Ilex*).—The specimen sent for naming is Pulmonaria officinalis. The Iris, from your description, is I. reticulata. It is a bulbous species with 2-feet-long leafage at this time. If there is not much overhead shade, you might plant the wall of the stone well with some of the Mossy Saxifrages, as Guildford Seedling, muscoides purpurea and Clibrani. Erinus alpinus would do in many cracks and crevices, and, nearer the top, Aubrietias in one or more shades. At the base you might introduce Arenaria balearica to climb and clothe the wall, while the small-growing Fern, Asplenium Trichomanes, should do quite well. In similar places we have seen the common Polypody and Hart's tongue flourish, while little pieces of Thrift and seeds of Iceland Poppies would soon make a show. The spores of the Ferns should be sown in the crevices, or, by mixing them with a little clay and water, smear them on by the aid of a brush. You certainly could sow seeds of Crocuses and Daffodils, though the latter would be years before flowering. A far better way would be to obtain the forced bulb stock of the large growers. The bulbs are usually very cheap, and in two years are quite satisfactory. Occasionally we hear of such for sale, and would communicate with you if so desired.

SEED-SOWING (*Ignoramus*).—You may sow seeds of Stocks and Pinks in shallow boxes of light, sandy soil in your conservatory at once. Prepare a compost of two parts fibrous loam, one part leaf-mould, and one part sand. Sift a little of the mixture through a fine-meshed sieve and stand it on one side. Place crocks or cinders in the bottom of the boxes, and over these place a layer of the coarse soil which has failed to pass through the sieve. Proceed to fill the boxes to within half an inch of the surface with the ordinary soil, and level it with a little of the fine material. Sow the seeds thinly and cover with a little of the finest soil. Water with a fine-rosed watering-can, and cover each box with a sheet of glass and a sheet of brown paper. When the seedlings appear, remove both glass and paper, and keep the conservatory well ventilated. As soon as the young plants are large enough to handle, prick them off in boxes about two inches apart each way. Keep the house well ventilated, and do not allow the plants to become dry. If your ground is at liberty, you may sow some of the seeds out of doors at once. You may pot your Privet in loamy soil at once; keep the young shoots pinched back to induce a bushy habit. Unless the young plants are very leggy, there is no necessity for cutting them back when you pot them.

TREES AND SHRUBS.

SOWING GORSE SEED (*C. L. C. T.*).—It is scarcely possible to say how much Gorse seed is required per lineal yard for a hedge, but if you sow about forty to fifty seeds to the yard they will be quite enough. Arrange to sow the seeds over a space 9 inches wide; then, when the seedlings germinate, the plants may be thinned to 9 inches apart in two alternate rows.

EVERGREENS FOR VERANDAH WALL (*S. C. R.*).—The following evergreens are likely to prove satisfactory against the wall beneath your verandah. All flower well: Camellia japonica varieties, Choisya ternata, Escallonia macrantha and common Myrtle (Myrtus communis). Good soil ought to be provided at planting-time, also proper provision made for drainage.

HEDGE UNDER ASH TREE (*E. K. P.*).—You will find that nothing will do well as a hedge plant on a bank composed of poor, chalky soil, under an Ash tree. The conditions are quite against anything growing satisfactorily. You might, however, trench the ground well and try Berberis vulgaris or common Whitethorn. The Ash roots are, however, likely to rob the hedge of all the available food material.

ABOUT BERBERIS AND ACERS (*J. B.*).—Berberis Bealei is a synonym of B. japonica, and differs from B. nepalensis in having fewer leaflets to its leaves. As a rule, B. japonica does not have more than nine leaflets, whereas B. nepalensis may have as many as thirteen or fifteen. The leaflets of B. japonica are generally much broader than those of B. nepalensis. Acer Davidii is a Chinese species, of less vigorous growth than A. striatum. The correct name of the latter is A. pennsylvanicum, and it is the Morse Wood of the Eastern United States. Prunus or Cerasus caroliniana and P. ilicifolia are distinct species. C. ilicifolia is a native of California. It forms a small tree 10 feet to 15 feet high, with ovate evergreen leaves 3 inches to 4 inches long, with conspicuously toothed margins. The flowers are white, borne in racemes about four inches long, and are followed by globular purple fruits. P. caroliniana, on the other hand, is found in North Carolina, Florida, Texas and Bermuda. It also is an evergreen tree, 15 feet to 18 feet high, with oblong or oblong-lanceolate leaves up to 8 inches long, which have entire, or almost entire, margins. The flowers are white, produced in short spikes, and are followed by round black fruits.

THE GREENHOUSE.

CYCLAMEN FLOWERS MALFORMED (*Cyclamen*).—The appearance of the Cyclamen flowers sent suggests that they were attacked by insect pests, either aphides, popularly known as green fly, or thrips, when in the bud state. Again, the damage may have been caused by fumigation or by too strong applications of manure. If you are a Fellow of the Royal Horticultural Society, you may, through the society, have your soils, manures, &c., analysed at a fixed price. The consulting chemist is Dr. Augustus Voelcker, M.A., F.I.C., 22, Tudor Street, New Bridge Street, London, E.C. If you are not a Fellow of the Royal Horticultural Society, he would, no doubt, carry out the analysis all the same, but the charges might be different.

TREATMENT OF POINSETTIAS (*R. T.*).—Poinsettias should, when the bracts have faded, be placed in the greenhouse and kept dry. If they are too parched up, a slight watering may be given, but very little will be needed. Then, early in May, they may be brought out, the soft parts of the tops of the shoots cut off, and the plants placed in the temperature of an intermediate house, water being given and the plants freely syringed. This will lead to numerous young shoots being pushed forth, and when these are nearly 3 inches long they are ready to be taken as cuttings. The cutting may be formed of an entire shoot with its swollen base just where it starts from the old wood, as from this spot roots are freely produced. Each cutting should be inserted in a small pot, which must be clean and well drained. A light, sandy soil must be used for the cuttings, which should then be put in a close propagating-case in a warm structure, where, if care is taken not to over-water, they will soon root. As soon as rooted, the cuttings must be exposed to the air of the structure in which the propagating-case is situated. In a short time they will be ready for a shift into pots 5 inches in diameter. A very suitable soil for Poinsettias consists of good fibrous loam, lightened by a mixture of leaf-mould, dried cow-manure and sand.

ROSE GARDEN.

BUDDING SEEDLING BRIARS LEFT OVER FROM LAST YEAR (*W. P. P.*).—Yes; you can bud the Briars this year. It will be best to cut back the tops now to about six inches from the ground, and have the soil dug shallow in between the rows.

PERGOLA FOR ROSES (*B. E. M.*).—The brick supports for your pergola should be about 15 inches square, 10 feet to 12 feet high, 12 feet apart in the rows and 14 feet between the rows. By using brick pillars you should use rather stout cross timbers, for light rustic branches look out of place with brick or stone pillars. Very often squared Oak timbers are used with such supports.

PIGEON-MANURE (*Goldfinch*).—If you possess a large quantity of this, the better way would be to mix it with twice its bulk of good loamy soil and place it in a heap for some months, turning it occasionally meanwhile. Thus treated, it would be suitable for incorporating with the soil of Rose-beds in the ensuing autumn, digging it in at planting-time preferably. A peck of it put in a bag and dropped in a thirty-six gallon tub of water would constitute a weak stimulant for many plants. Twice that amount may be used for Roses in beds in the open.

ROSE FORTUNE'S YELLOW (*H. R.*).—The premature shedding of its foliage is a peculiarity of this Rose, shared by few, if any, other varieties. We have an idea the trouble largely arises from over-watering; but perhaps it is due even more so to the fact that most plants sold are grafted upon the Briar or some other foster-stock. To be successful with this lovely Rose, it should be raised from cuttings or layers, and it should be planted out, if grown under glass, in a well-drained border. The main secret of success is in the pruning. As soon as the plant has provided its crop of bloom, the flowering growths are cut hard back to the main stems. New shoots will soon appear, and the weakest of these should be removed during the summer. After growth is completed, all the side shoots are cut back hard, and weak points of all the leading shoots shortened. From the spurs we obtain the glorious blooms that are unrivalled for beauty of colouring and elegance of form. Perhaps you can take a few cuttings now and insert in sandy soil. Grow on when rooted, and by the autumn you should have some nice, sturdy plants. If grown outdoors it is best if a glass coping is erected over it, and one should be very careful that the soil is well drained.

FRUIT GARDEN.

PRUNING MAIDEN APPLE TREES (*Eccleshall*).—Cut back the terminal shoot of the centre stem by one-third its length, and serve all the side shoots the same. This will induce young shoots to grow from their base in due time, and so furnish a foundation of a system of permanent branches for the tree. If this were not done, the trees would run into tops, leaving the bottom bare of fruit-buds.

SILVER-LEAF ON PEACH TREES (*H. H. D.*).—The Peach shoots are attacked by the disease known as "silver-leaf," caused by the fungus Stereum purpureum. Affected branches seldom bear fruit and rarely recover, and it is much the best plan to cut them out entirely, cutting back beyond the point where the wood shows a brown stain. If the greater part of the tree is affected, it would be better to remove it altogether. The shoots cut away should be destroyed by fire, as it is on the dead wood that the fruits of the fungus are borne.

TOMATO PLANTS IN VINERIES (*W. C.*).—Under the best conditions possible, and in the hands of the best experts, it is difficult to make good progress in setting and properly swelling the fruit of the Tomato in the depth of winter. Our advice to you is not to force your plants unduly, but to keep them steadily growing until the days are longer and the sun has greater power. You will find that the fruit will set and swell all right then, provided the plants have passed through the winter in good health. Keep the plants on the dry side for a time and the atmosphere also fairly dry for the present, with a mean temperature of from 55° to 65° Fahr. in the day-time, dropping to 50° in the early morning, but not lower than that.

VINE-BUDS DESTROYED BY WINTER WASH (*A. J. E.*)—The safest way to proceed, we think, will be to do everything you can to encourage the Vines to break into new growth from the base of the old spurs, by keeping up a genial moist and growing atmosphere. Once you can induce the Vines to break into new growth, the bleeding will soon cease, and the new growth would, of course, bear fruit next year. Supposing, however, your Vines refuse to break into growth, you will still have your remedy, for you can cut them out, say, early in May, throw them away, make a new border, and plant at once with nice healthy young Vines in pots in full growth. These will be as forward at the end of the year as if you had planted dormant Vines now, and in the meantime you have had the satisfaction of having given your old damaged Vines a chance.

KITCHEN GARDEN.

SCAB-RESISTING POTATOES (*Bishops Offley Manor*).—Your list given by the Board of Agriculture consists mostly of unfamiliar names, but the following may be recommended: Findlay's Conquest, Southern Star, Sutton's Abundance, Dobbie's Favourite, Crofter, Peacemaker, Provost, Sutton's Flour Ball, St. Malo, Kidney, Aberlady Early and Irish Queen.

GRUBS IN STEMS OF CABBAGE PLANTS (*J. S.*).—The grubs in the young Cabbages are those of the little beetle Psylliodes chrysocephala. They are not often found attacking the Cabbage, but have been recorded as doing so a few times. The beetle is about one-sixth of an inch long, of a bluish green colour, with reddish head and legs. It feeds on various cruciferous plants mostly near the coast, though it also occurs inland to some extent. The beetle is one of the "flea" beetles.

GROWING VEGETABLES BETWEEN APPLE TREES (*B. B.*)—The trees being planted only 8 feet apart does not leave much room for the culture of vegetables round them, bearing in mind that the ground over the roots of the trees must not be cropped. We think the best you can do is to plant two rows of early Potatoes. These would be off the ground about the end of July or early in August, and you could then sow three or four rows of Turnips, which would turn in during late autumn and early winter. This would do the Apple trees no harm, but, rather, good by the culture of the soil entailed.

BONE-MEAL FOR POTATOES (*Reader*).—Yes; it is a good manure. Spread a handful of it over a yard length of row after the sets are put in. A better artificial manure for Potatoes is the following: Half a hundredweight of guano, two hundredweight of superphosphate of lime, and half a hundredweight of muriate of potash. This should be applied at the rate of four hundredweight to the acre. Potatoes do not want much dressing for show. Wash them clean carefully without breaking the skin, but do not attempt to polish them, as judges do not like this. Select the tubers with the most even and smooth surface, with shallow eyes, of good average size, not too large nor too small.

MISCELLANEOUS.

FLANNEL WEED IN POND (*Chetwynd Leech*).—It is a good plan to rake as much of the Flannel Weed as you can out of your ponds; but the best thing to do is to apply copper sulphate at the rate of 2½oz. to 10,000 gallons of water. As you have no fish in the ponds, you might use the copper sulphate somewhat stronger, providing there are no water plants to consider and the water is not used for animals. It will be necessary to apply the copper sulphate several times during the summer. The Flannel Weed is not Elodea canadensis.

ST. MARK'S FLY (*H. E. H., Essex*).—The grubs sent are those of a slow-flying, two-winged fly called the St. Mark's fly, from its habit of appearing about St. Mark's Day. There are several species, black or red in colour, and they are frequently abundant. The larvæ usually feed on decaying vegetable matter, and when this is scarce will sometimes damage the roots of neighbouring plants. Injection of carbon bisulphide at the rate of half an ounce to the square yard, the use of one or other of the soil fumigants, or the pouring of boiling water on their haunts, may be practised with advantage, while the use of lime will help to render their surroundings uncongenial to them. Although yours is a chalky district, it often happens that the top soil is devoid of lime: it easily washes out.

APPLYING LIME (*J. R. P.*).—We do not know of any article dealing fully with lime-loving plants, but there are several families of plants which have a distinct objection to lime. The chief one is Ericaceæ, and very few of the plants in this Order, which includes such genera as Rhododendron, Kalmia, Erica, Calluna, Pieris, Zenobia and Arbutus, thrive in ground which contains lime. Conifers, as a rule, object to lime, while there are many plants which do not object to lime in the soil which would be injured were lime strewn over the ground when they were commencing to grow. If you were to spread your lime on the surface of the ground in autumn, let it lie for a couple of months and then fork it in, it is unlikely that it would injure the plants you mention; but if the same kind of lime is spread about after the plants have commenced to grow, there is little doubt but what it will kill them. It is quite likely that vegetables would be killed in the same way if the lime was sown broadcast over the young leaves, although the plants would be benefited were it applied to the ground in autumn.

BRITISH GARDENERS' ASSOCIATION (*Auld Scot*).—The British Gardeners' Association is an organisation of professional horticulturists of every grade. Its membership is widespread and influential. Its chief aims are to endeavour to obtain wages for professional gardeners commensurate with the ability necessary to be a gardener; to educate the public as to the real value of the gardener to the community; to obtain educational and travelling facilities for its members; to create a bond of fellowship among professional gardeners the world over; and to use every endeavour to raise the status of the whole profession. The conditions of membership are that a candidate for membership, if over twenty-three years of age, must have seven consecutive years of professional experience; under twenty-three years of age, five consecutive years' experience. Youths under twenty years of age are eligible to join as junior members. The subscription per annum for seniors is 2s. 6d., and for juniors 1s.; entrance-fee, 2s. 6d. and 1s. 6d. respectively. Satisfactory references must be submitted on application for membership. It would certainly be beneficial for Scottish gardeners to join the British Gardeners' Association, in more ways than one. The movement is national, and in no sense a local one. A branch exists in Edinburgh. The general secretary's address is Ulysses, Fortune Green, London, N.W.

NAMES OF PLANTS.—*E. T. W., Birkenhead.*—Veronica lycopodioides.——*Miss H., Hawkhurst.*—1, Rubus spectabilis; 2, Tsuga canadensis.——*A. W., Somerset.*—Lathræa Squamaria (Toothwort).——*Alford.*—1, Narcissus Glitter; 2, N. Stella superba.——*A. P. F.*—The Daffodils are: 1, Sir Watkin; 2, W. P. Milner; 3, Burbidgei; 4, Horsfieldii; 5, Minnie Hume; 6, Gwyther.

SOCIETIES.

ELSTREE AND BOREHAM WOOD HORTICULTURAL SOCIETY.

THERE was a good attendance of members and friends on the evening of the 13th ult., when Mr. E. Molyneux, V.M.H., of Swanmore gave a lecture on "Herbaceous Plants." The commodious dining-hall at the Elstree Schools was kindly placed at the disposal of the society by E. L. Sanderson, Esq., who also occupied the chair. The lecturer opened his remarks by speaking in eulogistic terms of the value of these plants and their increasing popularity. He then spoke of the definition of the word "herbaceous," and of the importance when exhibiting to include only those plants stipulated in the schedule. Almost any site except under overhanging trees would suffice for growing them, and as a background to the herbaceous plants, where room was available, the lecturer recommended climbing Roses of the Dorothy Perkins type trained over rough Larch or other poles. Trenching, particularly on heavy soils, should be done at least 3 feet deep, and plenty of manure and other suitable ingredients added. Unless the latter were to be freely acquired and the subsoil was poor, leave it at the bottom. Planting on light soil should be carried out in autumn, October for preference; but on heavy soils Mr. Molyneux advocated spring planting. On heavy soils lift a few plants of Lychnis, Chelone barbata, &c., and winter in a box in a cold frame. When dividing, pull the old clumps to pieces and replant the outer and more vigorous growths. The lecturer strongly advised the inclusion of bulbs, especially Narcissi, for spring effect in the borders, as well as others, such as Snowdrops, Crocuses and Hyacinths. He strongly advised the inclusion of the better varieties, especially relating to Asters or Michaelmas Daisies, Phlox, Chrysanthemum maximum and Montbretias. At the close of the lecture many questions were put to the lecturer, which proved very interesting, especially in relation to the question of dividing and planting, list of best varieties, &c. Mr. E. Beckett, V.M.H., proposed a hearty vote of thanks to the lecturer, which was warmly received. Several new members were elected during the evening.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden W.C.

NOTES OF THE WEEK.

Resignation of Sir Trevor Lawrence.—In two previous issues we have reported the intention of Sir Trevor Lawrence to resign his position as president of the Royal Horticultural Society. This resignation formally took place at the Council meeting on Tuesday of last week, when Sir Trevor vacated the chair. This was duly occupied by the new president, Field-Marshal Lord Grenfell. Sir Trevor has presided over the society for nearly twenty-eight years, and during that time has had the satisfaction of seeing it become the premier society of its kind in the world.

Asparagus as Ornamental Foliage.—Those who appreciate delicate green foliage with those kinds of cut flowers which do not furnish suitable leaves of their own should sow a little ordinary Asparagus seed. A row sown in some convenient part of the kitchen or reserve garden towards the end of April will, in the autumn, provide small, feathery growths for cuttings; and next year similar graceful shoots, but of larger size, will be available from early May until frost comes. Seeds of the ordinary variety are cheap, and need no special care when sown for this purpose.

The Swan River Daisy.—This pretty half-hardy annual is known under the name of Brachycome iberidifolia, and produces a wealth of blue flowers somewhat resembling a small Cineraria. It attains a height of 9 inches, and should be sown in batches or fairly large clumps to get the best effect, while as an edging plant it proves extremely useful. Seed may now be sown in the open ground, selecting, if possible, a warm, dry situation, although it is not fastidious regarding position. There is also a new variety in commerce, viz., Purple King, which may be described as royal purple. The colour is quite distinct, and the plant should be in great demand for beds or borders where annuals are cultivated.

An Interesting Tasmanian Shrub.—Owners of gardens in Cornwall, South Wales and Ireland would do well to make a note of Anopterus glandulosus for future planting, while in gardens which are less favourably situated it is well worth considering as a greenhouse plant. Belonging to the Saxifrage Order, it is very different in appearance from the other shrubby members of the family which may be grown out of doors, and its general appearance is more suggestive of Photinia serrulata than an Escallonia, Ribes, or Philadelphus. Its rather stiff branches are clothed with thick, evergreen leaves with coarsely-toothed margins, which are from 3 inches to 6 inches long and from 1½ inches to 2 inches wide. The flowers are white, with sometimes a tinge of rose on the outside of the petals, and they are borne in rather dense terminal racemes during early spring. The best results may be expected from planting it in warm, well-drained, loamy soil into which a little peat has been mixed.

Portrait of the Rev. W. Wilks.—An excellent portrait of the Rev. W. Wilks, secretary of the Royal Horticultural Society, has been exhibited at the Grosvenor Gallery, Bond Street, London, during the last week. This has been painted at the request of the Royal Horticultural Society by Mr. William Strang. We believe this portrait is eventually to be hung in the Council Chamber with those of other worthy and distinguished horticulturists.

Coloured Freesias.—There was a most interesting exhibit in the Royal Horticultural Society's Hall on April 1, when Mr. Hoog brought over from Haarlem one of Tubergen's best varieties, Conquest, and exhibited it alongside of the original first coloured hybrid, Tubergenii. The advance to a purer and clearer colour was very marked, and in our opinion fully merited an award. It was almost of the exact shade of Rhododendron nobleanum. When a set with real bright colours and good-sized blooms is evolved, Sparaxises and Ixias and all that ilk will have to look to their laurels; that is, of course, with the proviso that the scent factor is not all eliminated.

A Pretty Pot Plant.—In these days we do not often see examples of the genus Diplacus, of which there are several species, such as coccineus, puniceus and glutinosus. It is, however, the hybrid forms of the latter that make pretty pot plants, and the flowers greatly resemble the Musk or Mimulus; in fact, they are closely allied, and we wonder if any reader has attempted to unite the two genera by hybridisation. Cuttings may now be inserted in sandy soil, and if placed in gentle heat will soon root. Grow on in a cool pit or greenhouse, and when they become large enough for 4½-inch or 6-inch pots they will produce their flowers freely. The colour is in shades of yellow and red, and the plants attain a height of 2 feet to 2½ feet.

A Showy New Zealand Shrub.—In many Cornish gardens Brachyglottis repanda, a New Zealand Composite, is by far the most striking flowering shrub during the present spring, for Rhododendrons and Camellias, which are usually the most conspicuous shrubs at this season, are flowering very indifferently this year. The largest bushes are frequently from 12 feet to 15 feet in height and as far across, and they carry scores of large, elegant, terminal panicles of small, cream-coloured flowers which are most effective, especially when seen against a dark background. As a foliage plant it has also attractions, for the evergreen leaves are large, green above and silvery beneath, every breath of wind disclosing the silvery surface. Wherever the climatic conditions are mild enough to allow it to survive the winter out of doors, it may be grown, for once planted in ordinary garden soil it gives no other trouble than is required to prune it into shape occasionally and to remove the old flower-heads at the end of the flowering season.

CORRESPONDENCE.

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

Self-Sown Godetias.—I enclose a photograph of Godetias that were growing in my garden here last summer. They were self-sown from plants that were growing in the same positions in 1911 Although the photograph is not very sharp, it will serve to show the wealth of flowers that these hardy annuals are capable of producing.—M. Lyell, *Ruckmans, Oakwood Hill, Surrey.*

Fruit Trees for the North of Ireland.—It may interest your readers to have the following select list of fruit trees for the North of Ireland, none of which has failed to crop for six years in succession: Apples—Lane's Prince Albert, Bramley's Seedling, Lord Grosvenor, James Welsh, Grenadier and Allington Pippin; Pears—Hessle (against wall) and Jargonelle; Plum Victoria.—Walter Smyth, *Holywood, County Down.*

BORDERS OF SELF-SOWN GODETIAS IN THE GARDENS AT RUCKMANS, OAKWOOD HILL, SURREY.

A Freak Narcissus.—I enclose an abnormal Narcissus, a freak which I have not seen before. You will see that the spathe which enclosed the bud has developed into a leaf, and there are only four petals and four stamens. The variety is Sirius.—W. S. P. Bunbury (Major), *Rothsay Gardens, Bedford.* [Such examples have been previously recorded, but they are by no means common.—Ed.]

The Snake's-Head Fritillary.—I have read with much interest your article on Fritillaria Meleagris on page 158, issue March 29. Its quaint beauty makes a meadow where it abounds a delightful sight. Can you persuade your Oxford readers to use their influence to preserve this valuable plant? It is too true that it is gathered in large quantities, and I hate to see the stiff bunches in Oxford Market, especially as my friend Mr. Potter, of the firm of Backhouse, who lives in the neighbourhood, tells me that this wholesale gathering must tend to decrease the number of the plant, as it is prevented from increasing in the natural way by seed. I was going one year into Oxfordshire on purpose to see the Fritillaria in bloom, but found that it would be useless, as the meadows had been almost stripped of flowers. Probably no bulb suffers more than the Fritillaria, as there is foliage on the flower-stalk. Pray, Sir, do what you can. It seems to me that the University might with great advantage buy one or two of the meadows and thus preserve their beauty.—F. A. Sturge, *Coed Efa, near Wrexham.* [We feel sure that all who love wild flowers, and who live in the Oxford district, will do all they can to prevent the extermination of these quaint and interesting native plants. Certainly steps ought to be taken to prevent the spoliation that our correspondent states is taking place.—Ed.]

Mr. Lester Morse on Sweet Peas.—With reference to the letter from "H. P. B." under the above head on page 166 of last week's issue, I need only say that my varieties can well take care of themselves, but that they are not the subject of the present discussion. What everybody who is really honestly interested in the Sweet Pea wants is restriction upon random naming and a considerable reduction in the present list. I think only an amateur committee can achieve that. In putting this idea forward I made an attempt to find a solution, but I am prepared to do my little best to help forward any better plan. I have nothing more to say.—Hilda Hemus. [This discussion is now ended.—Ed.]

The Prairie Lily in Canada.—Perhaps the following notes may be of interest to some of your readers. Lilium philadelphicum, the Prairie Lily, seems, from the following extract from the "Book of the Lily," by W. Goldring, to be little understood in England: "L. philadelphicum is a gem among the upright flowered section, and a Lily-grower who succeeds in flowering it will regard it as a triumph of his cultural skill. . . . It is a difficult Lily to permanently establish, and no one can definitely say what its exact requirements are, as so few grow it and still fewer are successful with it." This Lily is very common in Manitoba, and grows in a great variety of soils, from heavy loam on clay subsoil to sandy hill faces, but seems to prefer a sandy loam on well-drained and sunny hillsides. I have seen large masses of this Lily growing to perfection on rolling sandy plains in company with Gaillardia grandiflora, Anemone patens and Viola delphinifolia, all plants requiring (with us) a somewhat dry, sunny position; and while the earliest blossoms are always to be looked for on hot, dry, southern hillsides, I have never yet found a Lily in a place where the soil was moist over the winter. The bulbs usually grow at a depth of from 3 inches to 4 inches, and the soil where they grow is usually dry enough to crumble when winter sets in. The ground generally freezes to the depth of from 6 inches to a foot in November and remains frozen till early in April, so that extreme frost will not injure bulbs while dormant. If Mr. Goldring, Mr. Bowles, or some other experienced Lily-grower has a dry, sunny bank or rockery on which they would care to try this Lily, I could send them some bulbs at planting-time. — F. L. Skinner, *Dropmore Manitoba, Canada.*

Mazus rugosus.—The note by the Wargrave Plant Farm on page 154 of March 29 issue on Mazus rugosus, which was shown by them before the Royal Horticultural Society on March 4 and given an award of merit, stimulates interest in a very pretty little alpine; but in view of the doubt as to the correctness of the name, it would be useful if the firm could tell us the source of their plant and the origin of the name they attach to it. Mazus rugosus is a very old-fashioned plant. Sweet figured it in Vol. I. of his "British Flower Garden" (1823), where he describes it as a hardy annual: "The plants begin to flower when they are scarcely two inches high and continue to bloom all the summer and ripen plenty of seeds, growing in pretty round tufts, the branches spreading prostrate on the ground in different directions. Being of small growth and spreading flat on the ground, it should be sown at the front of the flower borders. The proper time for sowing them is about the middle of April. If sown earlier they will be liable to be injured by the spring frost." Sir Joseph Hooker also describes the plant in Vol. IV. of his "Flora of British India" (1885) as a glabrous or sparsely hairy annual, without runners, with radical leaves 1 inch to 3 inches long and flowering stems from 2 inches to 10 inches long, racemes 1 inch to 6 inches, and corolla a quarter of an inch to half an inch. This is obviously a different and less valuable plant than that from the Wargrave Plant Farm. Can the plant certificated be one of the new Chinese species? Except in the colour of its flowers, it agrees well with the published description of Mazus pulchellus which Dr. Henry had collected in Ichang, and it is perhaps a near ally of that species.—R. W., *Colchester.*

Transplanting the Tulip Tree.—In the issue of The Garden of January 18 last, on page 30, I observe some remarks on "The Tulip Tree of America," which draw interesting attention to this desirable tree. That "it bears transplanting well" is not, however, the common experience. Significant of this I find the following direction in the catalogue of one of the largest and most reputable nurserymen in this country: "Plant only in spring and prune very closely." My purpose will be gained if those setting out Tulip Trees recognise the uncertainty of so doing with success unless care is exercised. Yet chance seedlings of the Liriodendron spring up on my place in the vicinity of several tall and beautiful trees growing there. Sassafras officinale is another of our native trees well worthy of a place in the grounds, alike for its strong green, curiously-cut foliage from spring to its clear yellow in autumn, if only it would transplant with greater facility. I have moved some fifty plants with fair success, but only by choosing the young plants and cutting them back to within 3 inches or 4 inches of the ground, and that only in the growing springtime. Nevertheless, the Sassafras is difficult to extirpate from any place where it has become established, but will spring up again and again.—W. M. Ramsay, *New York*.

WALLFLOWERS.

One is dressed in velvet brown,
One hath got a golden gown.
Sweet and humble is their mien,
Modest handmaids for a queen.
Stoop! the thuribles they bring
Perfume all the paths of spring!

Winter winds, that stript the trees,
Had no withering power on these;
Through the rain and through the frost
Never heart of hope they lost;
Ready for their service—bliss
They will never ask but this,
Glint of sun, and light wind's kiss!

Though they win but meagre praises
'Mid the Primroses and Daisies,
Long ago a wearied mortal
Vigilant at wisdom's portal
Found the English morning hours
Sweeter for this waft of flowers.

Though in lone, forsaken places,
Brave and blithe they lift their faces;
Yet, in gardens, Brown and Gold
Please the young and cheer the old.
June's too wealthy!—I could spare
Half her splendour!—for my share
Flowers that brave the chill March air,
Debonair,
Like my Wallflowers there.

Agnes S. Falconer, in *Country Life*.

FORTHCOMING EVENTS.

April 14.—United Horticultural Benefit and Provident Society's Annual Meeting.

April 15.—Royal Horticultural Society's Meeting and Daffodil Show (two days). Lecture by the Rev. Professor G. Henslow on "The Origin of Life—Why it is Undiscoverable."

April 16.—Royal Horticultural Society's Bulb Show and Primula Conference. Royal Horticultural Society of Ireland Spring Flower Show (two days). County Clare Horticultural Society's Spring Show.

April 17.—Ipswich and East of England Spring Flower Show.

THE GREENHOUSE.

TREATMENT OF IRIS FIMBRIATA.

[In Answer to a Number of Correspondents.]

The treatment which we recommended our correspondent "T. M. D.," whose photograph and letter were published on page 142, issue March 22, and which we are pleased to learn has been so successful, is as follows: Iris fimbriata, also known as I. chinensis, but whose latest name is I. japonica, is a beautiful species that many fail to flower in a satisfactory manner. Out of doors it is only in particularly favoured spots that its blossoms are produced; hence it must chiefly be regarded as a greenhouse plant. As far as soil is concerned, it is not very particular, though it prefers a fairly holding compost, such as fibrous loam, lightened by a little well-decayed manure, leaf-mould and sand. If repotting is needed, it should be done directly the flowers are over, but annual potting is, in the case of the Iris, by no means necessary; indeed, it often flowers in a particularly satisfactory manner as a large mass in a good-sized pot, suggestive of an Agapanthus. If it is not repotted, the necessary stimulus may be applied in the form of an occasional dose of liquid manure during the growing season, which is in the spring and early summer months. At that time it should be given a good light position in the greenhouse. Under this treatment it will by August have completed its growth, or nearly so, when it should be stood out of doors in a spot fully exposed to the sun. It must at that time be kept watered, but rather sparingly; that is to say, less will be needed than in the growing season. As autumn advances it should be again brought into the greenhouse and stood in a good light position there. When growth recommences, more water may be given, and the appearance of the flowers can then soon be reasonably anticipated.

WINTER-FLOWERING ZONAL PELARGONIUMS.

Two very fine Zonal Pelargoniums for winter are His Majesty, a fine rich red with a white eye, and Winter Cheer, a lovely *pale* shade of Turkey red ("Colour Chart," 92.1). They were originally introduced by Mr. W. H. Page of Hampton, and I have found them to fulfil all that he claimed for them. A coloured plate of the former appeared in The Garden for March 23, 1912. Another good variety of a distinct and very pleasing shade of orange red is Cannell's Maxime Kovalesky. I was very much struck with this at the early December Royal Horticultural Society's show, and there and then acquired it. I have been told since it is excellent for winter, and, judging by the plants that have come to me from Swanley, I should say it undoubtedly is. I do like red flowers in December and January to brighten things up; hence my penchant for the above. J. Jacob.

SCHIZANTHUS.

Few annual flowers have made greater strides in public favour within the past few years. For greenhouse and conservatory they produce an unrivalled effect. At this season the young plants will grow apace, but, providing they are of bushy habit, no stopping of the growths is required. Autumn-sown plants that are developing their flowering growth may be given occasional doses of weak cow manure and soot water.

TREES AND SHRUBS.

THE HOLLIES AND THEIR CULTIVATION.

The various kinds of Hollies are unquestionably among the most useful of all evergreens, for they exhibit a considerable diversity of habit and foliage, and the majority are amenable to cultivation in most parts of the country. The common Holly and its varieties, for instance, thrive luxuriantly in woods, copses and gardens in the South of England, while they are equally at home in many gardens in the Highlands of Scotland. Again, they are not fastidious regarding soil, for they thrive equally well on the peaty land of Woking and parts of the New Forest, on the heavy clay of the Forest of Dean and the chalk of the Chilterns, while they also grow well in very light, sandy soil and that of a gravelly character. The most unsuitable ground is that which is subject to periodical flooding or badly drained and inclined to sourness.

The Use of Hollies.—There are many uses to which Hollies may be put. Their natural position is as an undergrowth to Oak woods, and in such places examples 30 feet to 50 feet high, which have trunks a foot or more in diameter, may be met with. But they are equally adapted for planting in full sun, and are at home as isolated specimens or as clumps. Some kinds are excellent for planting as lawn specimens, while no better evergreen hedge plant can be found than the common Holly for general planting, although some of the broad-leaved kinds, such as Hodginsii or Shepherdii, stand better in the vicinity of the sea.

The Time to Plant.—Although the various Hollies lend themselves so well to general cultivation, they are decidedly difficult to establish unless a few points regarding transplanting are observed. When the roots are to be pulled about to any considerable extent, it is necessary that transplanting should be done either during late April or early May, or in August or early September. At these times the vitality of the plants is most pronounced and Nature commences at once to repair injuries, whereas, if the roots are disturbed in the dead of winter, they lie dormant for several months in cold soil, and the plants often suffer severely. Another point which is worth considering at planting-time is the reduction of the branch system to counterbalance the injury done to the roots, and it will be noticed that if a few branches are removed or shortened, the plants will be greatly benefited. Deep planting must also be avoided, for the most vigorous plants are those which have their feeding roots near the surface of the soil. One of the greatest mistakes imaginable is to bury the stems of trees, even to the depth of a few inches; yet it is often done with the idea that the plant will better withstand the effects of wind, an altogether erroneous conclusion. Should the weather be dry at planting-time, the trees must not only be well watered when planted, but syringed overhead twice a day for a few weeks. A surface-dressing of decayed leaves will also do good. If by any means a large ball of soil can be moved attached to the roots the work may be done at almost any time; in fact, plants can be moved any month in the year, but in such a case the roots are scarcely disturbed.

The Propagation of Hollies may be effected in one of three ways. All species may be increased by seeds, which take a long while to germinate,

often from one to two years. Cuttings of half-ripe shoots of species and varieties inserted in sandy soil under a hand-light, or in a cold frame in July or August, will root by the following spring, while fancy kinds may be budded or grafted upon stocks of the type. The latter, however, is not a plan to be generally adopted, unless in the case of those varieties which have weeping branches, for there is great danger of the stock growing and spoiling the scion. In some gardens the practice obtains of clipping Hollies into formal cones, and the smoother the surface of the plant, the more perfect is it considered to be. Some people describe this clipping as pruning, and appear to consider it to be quite the correct treatment; but anything more hideous than these closely-clipped plants it is difficult to imagine. The best plants are those which assume the form of the best woodland examples, and any necessary pruning should take the form of thinning out the branches rather than clipping

A WEEPING HOLLY (ILEX AQUIFOLIUM PENDULA) AS A LAWN SPECIMEN. NOW IS THE TIME TO PLANT.

One item which often causes dissatisfaction is the failure of certain plants to produce fruit, and the fact does not appear to be generally understood that certain examples bear male flowers only and others produce female flowers only. While, however, the former plants never bear fruit, a female plant may do so even though there be no male plant near, although few of the seeds will be fertile. Those seeds which are perfect probably owe their fertility to insect agency.

The Best Varieties.—As is very well known, the common Holly (Ilex Aquifolium) is composed of a large number of varieties, some of which have been cultivated under one name or another for upwards of a century. They exhibit a great diversity of habit, some being as vigorous as, or more so than, the type, while others rarely exceed a few feet in height. Some, again, have pendulous branches, others large or very small leaves; some have variegated foliage, others are distinguished by their very spiny or almost spineless leaves; while in still other instances the varieties are distinguished by the colour of the fruits. In selecting variegated varieties, it is always better to choose those with the variegation about the margins of the leaves, rather than those with green margins and coloured centres, for they do not revert to the type so readily as the latter. A few good green-leaved varieties are I. A. camelliæfolia, donningtonensis, handsworthensis, Marnockii and ovata. Good variegated-leaved sorts are Golden Queen, Silver Queen, aurea marginata, watereriana, argentea pendula, Handsworth Silver and argentea marginata. Pendula is an excellent variety of pendulous habit, and fructu-luteo has yellow berries.

The large-leaved Hollies are mostly hybrids between either the Canary Island I. platyphylla and I. Aquifolium, or the latter species and I. balearica. They are generally very vigorous and have very broad leaves. Hodginsii or Shepherdii, maderensis, nobilis, nigrescens, platyphylla and Wilsonii are all good kinds to grow.

Among other species are numerous useful kinds. I. opaca is the American Holly, a useful and showy tree; I. crenata is a dwarf, compact kind, with small leaves, from Japan; I. cornuta, an oblong-leaved species, hails from China; I Pernyi, a new species from the same country, is a very pretty kind; I. integra is interesting by reason of its spineless leaves; while I. dipyrena is a large-growing, useful species from the Himalaya suitable for the Southern Counties. W. D.

THE FLOWER GARDEN.

SEASONABLE NOTES ON AURICULAS.

Alpines Outdoors.—Although these are easily among the most charming of all the early-flowering plants, it cannot be said that they receive much attention. Many people, of course, fully appreciate their beauty and utility; but the majority do not do so, if one may judge by the specimens in gardens. Large, established clumps are handsome, but the variety must be one that is reasonably good, though not necessarily new, and a faulty variety should be grubbed to give space for its betters. Young plants should be raised annually from seeds as well as from cuttings, since the former are nearly sure to provide something of quality, provided the seeds are procured from a source of the first repute. The plant is wonderfully accommodating, and will flourish in practically any position in the border or the rock garden; but where it is imperative that a very hot, sunny situation has to be selected for flowering, it is wise to move the plant when the blossoming period is over to a cooler place.

Alpines from Seeds.—Notwithstanding the fact that the seeds are most irregular in germinating, and therefore one has to keep the seed-pan or box under close observation for a considerable period, this is an extremely easy method of raising a stock, and it is certain that the varieties produced will be excellent. The source of worry with the amateur who has not previously sown seeds invariably lies in the fact that he sees the seedlings coming through in a most patchy way, and promptly concludes that the seeds were poor in quality. Such is not the case, however; the Primulas as a family are prone to exhibit this tendency. Often the late seedlings prove to be the best varieties, and the weakest must not be discarded for the strongest, as might be permissible in the case of a Parsnip. Sow so thinly that no thinning will be required, and to enable the early seedlings to be removed without disturbing the surrounding soil which contains seeds at rest or only just vegetating, and do not miss a single one because it happens to be on the puny side. The soil should be light and sandy, and the place may be a cold greenhouse, cold frame, or, failing either of these conveniences, beneath a hand-light in the open.

Alpines from Cuttings.—Those who find when their plants are in bloom that they have one or two which they particularly desire to perpetuate in increased numbers will have recourse to propagation by cuttings, which will be produced in due course. Some varieties will yield more than others, and the grower must decide the number he wants. Two and a-half inch pots containing very sandy loam answer our present purpose, and the cuttings, which must have a short length of hard stem attached, should be firmly inserted. Stand the pots in a cold frame, greenhouse, or under a hand-light, and immediately they are well rooted, plant out. Old plants can be divided after flowering if required.

Plants in Flower.—We are on the threshold of the flowering season of the exquisite show varieties in pots. More strenuous concerted efforts ought to be made by Auricula-lovers to impress upon others the charm of these plants, their ease of culture and the small expense that they entail. It is regrettable that the most refined of all florists' flowers should be in a position such as that occupied by the show Auricula. It is known and worshipped by the few, whereas it ought to be known and worshipped by the many to do it justice. Something should be done, and the society maintained in its honour ought to do it. The plants will demand more water now and onwards, and directly the blossoms have passed their best snap off the stem just beneath the truss and leave it to waste away. The plants must not be exposed to hot sun, and the atmosphere must be sweet.

Repotting.—Perhaps the most generally satisfactory time for repotting is immediately after flowering, though it may be deferred until the late summer if more convenient. The soil should be the cleanest that can be procured, sound loam answering to all the demands made upon it; but we will postpone the discussion of this task for a week or two. F. R.

THE SCARLET WINDFLOWER FAILING.

It would be of great service, I think, were some of the readers of The Garden to give their experiences of Anemone fulgens, particularly where they have cultivated it for a period of years. It is well known to many who have so grown this flower that it is, in quite a number of gardens, a most unsatisfactory plant, inasmuch as it is not only liable to be lost through the attacks of some of the diseases to which Anemones are subject, but often fails to flower regularly, and, in consequence, its value is entirely discounted.

It appears subject to practically nearly all of the recognised Anemone diseases, such as the Anemone root-mould (Plasmopara pygmæa Unger), the Anemone smut (Urocystis Anemones Pers.), Anemone cluster cups (Æcidium punctatum Pers.) and Anemone Peziza (Sclerotinia tuberosa Hedw.). I have rather frequently had specimens affected with the Anemone Peziza sent me, and have come across this in several gardens among A. fulgens. The most satisfactory method of dealing with all the Anemones affected with any of these diseases is to commit them to the furnace, with, perhaps, the exception of those affected with the Anemone smut, where immediate destruction of all affected leaves may eventually dispel the disease. The remedy may be a drastic one, but it is better far to lose the diseased plants than to have the whole stock affected by the ravages of these pests. Where the leaves only are affected, spraying with Bordeaux mixture or other checks may be helpful, but the drastic methods are usually the most effective with such diseases as afflict the scarlet Windflower.

When we consider, however, the failure of the plants to grow, or their unwillingness to flower from other causes, we are on less secure lines of treatment. One has tried all the stock methods of cultivation, yet in certain places these all fail. A common prescription is a half-shaded place in rich, deeply-dug loam, with a little lime applied to it. Another, quite opposed to it, is a sandy loam in full sun. Still another is to plant in loam, leaf-soil and sand. Now, all of these fail in certain gardens, while in others A. fulgens can be cultivated with little care, save to plant in a border of ordinary loam.

It would, perhaps, help us were we better acquainted with the conditions under which imported tubers have been cultivated. In most cases we find that these flower very well the first season, but that they do not bloom nearly so well, if at all, the following years. It appears to the writer that very frequently—in most cases, in fact—this failure in subsequent years is due to a want of rest, and that in many parts of our kingdom the tubers are not sufficiently ripened. It does not do to dogmatise on such questions, but this is put forward as at least an indication of what the writer has found with this glowing and most beautiful scarlet Windflower. Where it does not bloom well, it may be necessary to lift the tubers when the foliage has withered, and to give them a month or two of rest, drying them off carefully and replanting in a moderately sunny position. In wet climates the tubers are hardly ever at complete rest. The question is of more than passing importance, as no one who has grown any of the lovely varieties of A. fulgens is willing to confess to being beaten in the attempt to secure flowers on this charming plant.

Dumfries. S. Arnott.

ROCK AND WATER GARDEN.

THE HARDY NYMPHÆAS OR WATER LILIES.

Their Popularity.—Perhaps no flower among all the British flora is more admired than our common or wild Water Lily, Nymphæa alba. It was about the first of all flowers that claimed my attention nearly sixty years ago. I remember well the lovely effect that was made upon some large sheets of water in a deer park near to my home, and with most suitable surroundings, too, such, for instance, as the Bulrush (Scirpus lacustris). I have also seen other sheets of water covered with this Water Lily flowering in the greatest profusion. The flowers are often offered for sale in the seacoast towns of the Eastern Counties, the source of supply, no doubt, being the Broads. The true N. alba has a comparatively small flower, and must not be confounded with N. candida, which is more vigorous in every respect. Considering how very popular these old inhabitants of our ponds and lakes have ever been, it was no wonderment to think how the first of the tinted hybrids took on when first imported into this country. There was, it is true, an impression in some quarters that these hybrids were not perfectly hardy. That doubt has now, I think, been completely dispelled. We have been steadily led up to the deeper tints that now obtain in some of the more recently-introduced hybrids. Now we have an ample choice from the point of colour alone, as we have also in diversity of growth. Many are the ponds and lakes that are now ornamented with these lovely flowers, and that to great advantage beyond a doubt. They look

AN EFFECTIVE GROUPING OF AQUATIC PLANTS IN A SURREY GARDEN. NOW IS THE TIME TO PLANT HARDY WATER LILIES.

well when seen at a distance, and even more so when viewed from rising ground, such, for instance, as at the Wisley Gardens of the Royal Horticultural Society, also at Gravetye Manor, Mr. William Robinson's country seat in Sussex. To inspect them more closely and to fully appreciate their individual beauty and distinct characteristics, a closer inspection needs to be made. Then we can fully realise how lovely some of the later hybrids are.

Their Utility.—Many sheets of water, both large and small, look well without any superabundance of aquatic growth. It is, however, around the margins and in cosy nooks of the larger surfaces of water that the Nymphæas have a good effect. Smaller sheets of water may, in some measure, have a greater quantity of these plants, so as to produce a distinct effect. For these purposes there is now an abundant choice, both in various forms of growth and in the diversity of colours. Some, too, are suitable for large fountains, others are better even when grown in small basins of water, while it is also possible to grow them in large, shallow tubs with very good results. In whatever way they are grown they add to the attractiveness of the garden, and that, too, at a season when the garden is most frequented and more time spent therein. Small ponds and shallow pools are at times, in a measure, unsightly by reason of a scum upon the surface of the water. Where this happens to be the case, some Water Lilies should be planted. These, it is true, may not altogether dispel the bad effect produced, but they will greatly assist in doing so.

Their Freedom of Growth.—Many of the hybrids raised by M. Latour-Marliac are remarkable for their vigorous growth. For these more room is needed than is often allotted to them. When it is seen that the leaves are so dense as to force themselves out of the water, it is indicative that a greater depth is necessary for them. If this cannot be provided, it is better to thin out the crowns. This should be done without any hesitation, for two or three good crowns are very much better than twice the number in the same space. For the strongest growers 6 feet in depth of water is none too much for them. I have seen such as N. Marliacea chromatella doing well in as much as 18 feet of water, but I do not recommend planting at that depth. This variety is very often seen late in the season to be overcrowded. When such is the case, it points to a need of division. The flowers are often smothered by the leaf-growth also when the latter is so dense; this in no sense is desirable. Vigorous growth is also fostered and encouraged when the mud is too deep; this fact must also be contemplated when the planting is being done. I knew an instance once where there was an escape of sewage into a lake; here the growth was luxurious almost beyond description.

On the other hand, there are several of these hybrids that are of quite moderate growth, yet produce both leaves and flowers of large size. When I note that any particular variety possesses long petioles (or leaf-stalks), I take it as an indication that it will thrive better in deeper water. What I do not like to see is a plant that has a tendency to produce a multitude of small leaves, which lie almost upon each other at times, and with but few flowers. A few years ago this appeared to be a weakness of a few of the hybrids. I have not noted it to such an extent during the past two or three years. When it does occur, it is advisable to break up the plant into single crowns where it is possible to do so. This should be done in May, if it be possible, and with a sharp knife, aiming at a few roots to each division. These will almost invariably establish themselves during the coming summer. Some there are that flower so profusely, almost at every leaf, and do not in consequence make any back breaks. It is rather difficult to propagate such. We had such a case once in N. Laydekeri rosea, which never made a break. This plant ultimately died, but not before we had obtained one seedling from it.

Their Value in the Water Garden.—Water Lilies play an important part now in the effective grouping of water plants, combined with sub-aquatics and plants that associate with both and which may be fairly termed water-side plants. Taking the illustration that accompanies this article (page 181) as an example, one may note how well all the subjects comprised therein blend with one another. Here may be noted such water plants as the Arrowhead (Sagittaria species), the Water Sedge (Cyperus longus), and of sub-aquatics such as the Astilbes in variety. Upon firmer ground may be noted both Bamboos and Miscanthus, as well as the moisture-loving Saxifrage (S. peltata), the giant Californian species. Such a grouping as this is most effective, the trees in the distance adding to the general attractiveness. In the immediate foreground one Water Lily gives indication of needing either deeper water or division. Allusion to the treatment of such will be noted further on. Each of the clumps of Lilies is planted at a good distance apart. This is as it should be. When possible, it is most advisable to plant for colour effect. By selecting those that can be relied upon to flower freely, this can be done. It is possible to so arrange such a water garden as this for distant effect, but personally I should favour such an arrangement as would produce a surprise. In the illustration it may be noted that no large trees overhang the water. This is as it should be, as these are not, by reason of the shade, at all favourable to healthy growth. Caltha polypetala (the new Kingcup) would add much to the colour effect, while both Menyanthes trifoliata (the Bog Bean) and Butomus umbellatus (the Flowering Rush) would, if not so showy, add to the attractiveness in their season. For growing in the water absolutely, Richardia æthiopica is most valuable in such groupings as this. It will continue in flower for a long period in the summer season.

James Hudson, V.M.H.

Gunnersbury House Gardens, Acton

(To be continued.)

PRIMULA FORTUNEI, A BEAUTIFUL EARLY-FLOWERING PRIMROSE FOR THE ROCK GARDEN.

PRIMULA FORTUNEI.

This dainty Primrose bears a considerable resemblance to P. frondosa, and is of about the same size. Its flowers, however, are rather less rosy, tending more to lilac, and when poised upon the intensely white, farina-covered stalks, look extremely dainty. Unlike P. frondosa, the plant does not form such close resting buds; indeed, during mild winters it continues to grow the whole time, and is one of my earliest Primulas to open its attractive blossoms. It is, I believe, not quite hardy, and should be protected during cold periods, or grown in a pan, and plunged out during the milder weather. Loam, grit and leaf-mould make a compost which appears to suit this Primula excellently, while it seems to

favour a copious supply of moisture, especially during the growing season. When each plant subdivides into several crowns, it may be split up, thereby readily increasing one's stock, while pieces of sandstone partially buried about its roots greatly modify the evaporation of moisture, in addition to enhancing the appearance of the clump. REGINALD A. MALBY.

THE ROSE GARDEN.

AN EARLY-FLOWERING PILLAR ROSE.

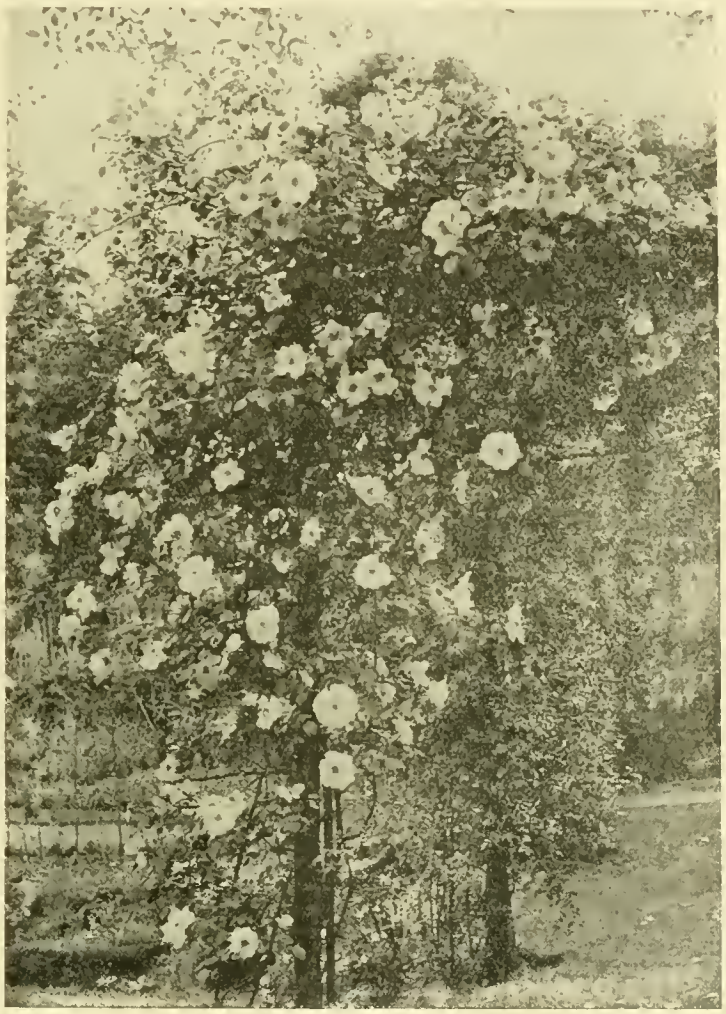
ROSE UNA is one of the first of the pillar Roses to greet us, which it does with large and practically semi-double blooms of a creamy white shade that passes to a clearer white when fully open. In this garden—Ken View, Highgate—it has been grown for several years, though rather badly given to attacks of mildew in the bud stage; yet one is bound to admire and speak well of it because of the free manner in which the large flowers are produced. It is rather sparse with us in sending up new growths from the bottom; they more often come halfway or more up the existing rods, which makes the September pruning a work of just thinning the head part rather than, as is mostly the case with climbers, a clearing away of complete stems from the base. However, it is rather a good thing that Una does not want too much handling, for it has, I should think, about the worst thorns of all Roses. C. T.

SEASONABLE WORK AMONG THE ROSES.

APART from the most important work of pruning our Roses, there is much to be done during this month whenever the weather permits. Mulchings applied now, or immediately after the prunings are collected, will be a great support to the plants all through the coming season. Before mulching I would prefer to slightly move the surface soil, and if a sprinkling of bone-meal can be added just before turning this over, there are few cases where it will not be beneficial. One may be sure of the fertilising juices from these spring mulchings being of use, for the active roots of Roses will be ready to take them up at once. On the other hand, I have little doubt that a good proportion of these are lost by winter percolation taking it quite beyond the roots while in no condition to absorb or make use of the nourishment.

The nature of these mulches must be largely a matter of convenience, with a little regard to the natural constituents of the soil. But I may say that Wakeley's Hop Manure is equally as suitable for the majority of soils as the best prepared stable manures; and if one must purchase, this, aided by the sprinkling of bone-meal, will afford the cleanest and least objectionable mulch of any that I am acquainted with.

If one must plant, or even fill up a few gaps thus late in the season, it will be well to give more attention to firmer soil around the roots, whether the plants be from the open ground or from pots. Of course, before any mulching is done, one should take good care to eliminate any suckers from the stocks the Roses may be worked upon. If this is being done at the time of pruning, on no account be tempted to use a sharp-edged knife. Keep an older and rougher-edged one specially for this purpose.



ROSE UNA, A BEAUTIFUL SEMI-DOUBLE VARIETY, GROWING ON A PILLAR.

Even on March 7 I found some green fly upon the very precocious young growths in sheltered corners upon walls and fences. Here, in the South, we have scarcely had any real check to many growths in warm quarters, and I would advise the use of the syringe freely wherever fly is visible. If one does not, he will simply be harbouring a healthy colony of enemies, which will assuredly infest the whole of the young Rose growths as soon as the first real spring days put in an appearance.

Sussex. A. P.

COLOURED PLATE.

PLATE 1469.

CLARKIAS FOR GARDEN AND GREENHOUSE.

AMONG hardy annuals there are few more beautiful and useful than the varieties of Clarkia elegans, of which there are now some particularly good colours obtainable. For sowing in the open garden during April where the plants are intended to flower these Clarkias are ideal their tall yet graceful habit and the delicately-poised flowers creating bright and pleasing effects in mixed borders, large beds, or, indeed, in almost any position that is not densely shaded by overhanging trees. In common with other hardy annuals, it is essential that the seed be sown very thinly, and when the seedlings are well up they must be thinned to 9 inches or 12 inches apart to allow the plants to develop their natural branching habit. As cut flowers these Clarkias are exceedingly pretty, possessing the merit of lasting well and lending themselves to artistic arrangement, this latter feature being well shown in the accompanying coloured plate.

Until a few years ago varieties of Clarkia elegans were regarded solely as flowers for the outdoor garden; but thanks to the beautiful exhibits that have been staged by Messrs. Sutton and Sons at the Royal Horticultural Society's Temple Shows and at the International Show at Chelsea last year, a great impetus has been given to their cultivation in pots. Possibly this impetus has been aided also by the introduction of several new and charming colours, the latest and most beautiful of which is Sutton's Scarlet Beauty, shown in the accompanying coloured plate, which has been prepared from a colour photograph kindly placed at our disposal by Messrs. Sutton and Sons.

For early spring decoration of the conservatory nothing is more telling than well-grown plants of this and several other varieties. For this purpose the seeds should be sown in September and the seedlings grown under quite cold treatment, just preserving the plants from frost and keeping them as near the glass as possible to encourage sturdy growth. The seedlings should be potted on and pinched back two or three times to ensure nice bushy plants. Scarlet Beauty is perhaps the brightest colouring of all, and with winter pot culture the colour comes a beautiful rich salmon pink, resembling the colour of Sweet Pea Earl Spencer. Double Delicate Pink, Double Salmon, Double White and Firefly (a bright rose crimson) are also well worthy of cultivation, both in pots and in the open border.

DAFFODIL NOTES.

The Present Season.—The present is a "How are things looking with you?" season. The ordinary salutation is forgotten, and hands are clasped with the anxious accompaniment of the above formula. Each one hopes for the cold comfort of being told that his neighbour is like himself, for, if the truth must be told, 1913 is not a vintage year. Frosts, merodons and slugs have done or are doing their best to make the wretched Daffodil as uncomfortable as possible. Taken as a whole, the blooms in the Royal Horticultural Society's Hall on April 1 did not look up to the mark. They had that peculiar appearance which always seems to tell me that they have been short of a top-coat on more than one occasion. In our fickle climate Jack Frost is often in evidence. An extra early season like the present only makes his visits more apparent, that is all. The merodon is an even more unwelcome visitor. How to combat it is a serious question. When there are ominous gaps in our serried ranks, let us lose no time in getting our nets ready. With the advent of warmer weather he is sure to be seen. *He must then be caught.* He does not, however, account for all. Some blanks must be credited to the ubiquitous slug. Slugs have had a good time lately, and in stiff soils they have been especially active among the Daffodils. My head-gardener has lately been investigating some failures, and he frequently found the bulb quite sound, but minus roots and plus some fat slugs. Among others who talked to me at the show was Mr. Denison of Henley-on-Thames, who has a garden of stiff, clayey soil. He bemoaned the loss of his Poetaz and his Lucifer, owing to the long-continued waterlogged condition of his ground, and he then went on to say that he had been very much bothered with slugs, and that when he dug down to some of the bulbs he often found slugs enjoying a nice meal. He fancied that they ate the roots. His experience and my own are so similar, and the coincidence of his mentioning it to me when he did struck me so much, that I have inserted it here as a possible solution of other people's troubles.

A Vexed Question.—There were several varieties up for award before the committee, but only one gained the coveted distinction; that was White Emperor, a beautiful flat flower of ivory white and the palest primrose. While there was a general consensus of opinion in favour of the award, there was a sharp cleavage between members as to what it should be labelled. Here are the facts. By breeding and parentage the variety is an Ajax or trumpet, but by the Royal Horticultural Society's measurement classification of 1910 it is an undoubted giant Leedsii, inasmuch as the segments are from one-eighth of an inch to a quarter of an inch longer than the trumpet; again, as you see it sideways, it looks like a trumpet; but if you stand straight opposite it, it has a decided Leedsii appearance. The amount of interest aroused was very great. One was continually being asked, "Is it decided?"; or, as a witty member of the Narcissus committee put it, "When is a trumpet not a trumpet?" the answer being, "On the first of April!" It has been suggested that it is on the border-line. It might be, if a trumpet was a *mile* long, but when a very big one is only $1\frac{3}{4}$ *inches*, surely one-eighth of an inch or three-sixteenths of an inch is a very appreciable quantity. One consolation that the owners will have will be that this divergence of opinion is an uncommonly good advertisement or send-off as it begins its market life. Some of its judges may be April fools, but its purchasers were not—at least, I for one do not think so. The illustration of this famous flower which is figured on this page gives a side view of it and shows its trumpet appearance.

THE NEW NARCISSUS WHITE EMPEROR. IS IT A TRUMPET OR A GIANT LEEDSII VARIETY?

Generalisms on the Best Flowers.—Again seedlings were in the ascendant. Never before has Mr. F. Herbert Chapman staged such an exhibit. It was almost entirely composed of his own home-made flowers. Among others, he had six magnificent golden trumpets—lovely things—every one of which changed hands before the day was over. Haydon's mantle seems to have fallen upon Chapman. Lissadell had far and away the largest exhibition of their own seedlings that I have ever seen. There were some nice things among them, but on the whole they would not set the Thames on fire. I am, however, pretty sure that this was only a feeler. *There are more at home.* Mr. Watts had a goodly array of novelties, all made in Wales, and again he requisitioned his ancestor's dictionary. He is very good about it at present, and does not often go beyond two syllables; but what will it be like when these are used up and, it may be, in addition to his own he has Anglesey Bulb Farm seedlings to christen! I saw a real beauty from Colonel Cotton in the Editor's sanctum the other day. It had quite a nice name—Apricot Gem, I think, or something of that sort; but just suppose he began naming them after the parish in which he lives—Llanfair &c., &c., &c. (these etceteras refer to the word which includes a whole tale about a well before it is finished). Then there was an interesting little collection from Mrs. R. O. Backhouse of Hereford. The blooms were in an unfortunate position, right against the light, and were not seen at their best in consequence. Two cups, one a triandrus seedling and the other a red-edged, had curiously thickened margins, of the same sort of look that the excrescences on the trumpets of many frilled white have. In Engleheart's fine display, perhaps the feature above all others was the size of his largest giant Leedsii. Super-Giants would not be a bad name for them. Among Wilson's the wonderful red cups stood out; what a pity that the colour is so fleeting! In my next notes I hope to describe in some detail about a score of the newer ones at this show which took my fancy, and which are not much, if they are at all, known.

Andrew Kingsmill.—It was a sad duty that fell to Mr. Warrender when he had to announce the death of the friend who had proposed him as member of the committee. We all feel his loss. His connection with the Daffodil goes back to earlier days than the appearance of that epoch-marking plate of Seagull and Albatross in The Garden. He was a member of the celebrated syndicate that quietly absorbed all the best of the early Engleheart productions, beautiful things that are only now becoming common. His garden was largely of the semi-wild order, and here, under the partial shade of trees, he established fine colonies of the cheaper and better-known kinds. A favourite both of Mrs. Kingsmill and himself was the old small incomparabilis John Bull. It is much in the style of Autocrat. I will always connect him with it. Its name was typical of the man in more ways than one.

Joseph Jacob.

CLARKIA ELEGANS SCARLET BEAUTY.

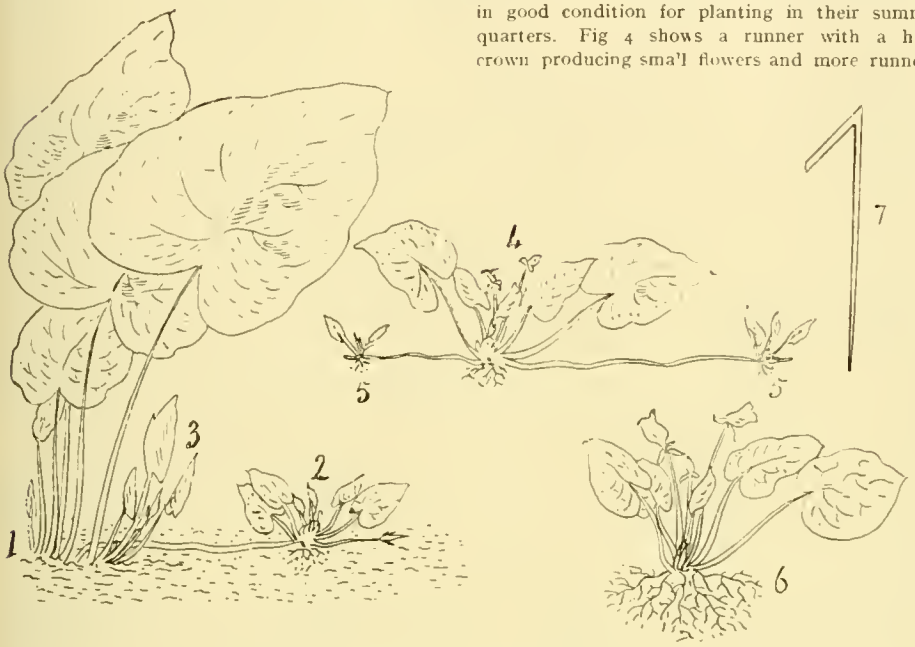
(Sutton & Sons)

Hudson & Kearns, Ltd. Printers

GARDENING FOR BEGINNERS.

HOW TO PROPAGATE SWEET VIOLETS.

Expert cultivators pay much attention to the propagation of new stock, as they know quite well that the finest crops of flowers will result if the young plants are carefully reared. A Violet plant will grow in almost any kind of soil, but it will not bear many fine flowers if badly treated.

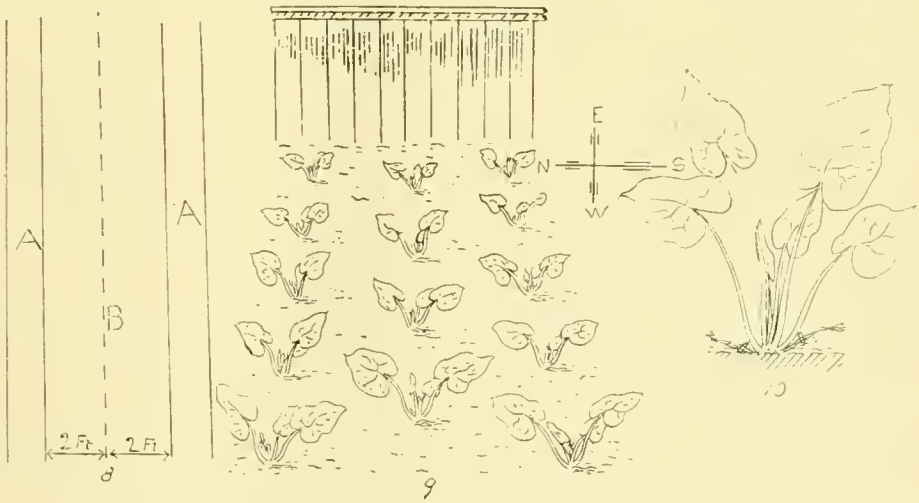


1.—DIAGRAM SHOWING HOW VIOLETS PRODUCE SUCKERS AND RUNNERS, WHICH MAY BE USED FOR PROPAGATION.

Runners and Suckers.—Both grow from the old or parent plant; but the former are borne on long stems, which spread out over the surface of the soil, and the latter grow up through the soil, in some instances close to the old plant, and many of them grow from the base of the latter. Now, the best of the two kinds is the sucker, because it bears larger flowers and more continuously than the one on the runner. The latter persists in producing more runners, and consequently it does not attain to a large size itself and the flowers are small. The suckers are, therefore, the best, and though they may not be as plentiful as the runners, they should be secured in preference to them. Fig. 1 shows the old or parent plant, Fig. 2 the runner, and Fig. 3 the sucker. The runners may be layered just the same as Strawberries, by pegging them down, or by merely burying the stem and base of the young plant in some prepared compost. The suckers must, however, be more carefully treated. First clear away some of the old soil from around them and the base of the old plant generally. Replace the soil with some sifted leaf-soil, sand and a small quantity of heavier loam, well mixed. Press the new compost fairly firmly round the suckers and keep it in a moist state. In a very short time new roots will have formed, and then the rooted suckers can be detached from the old plants. In cases where the suckers are found growing up through the soil, they must be examined, and if they possess a few roots, carefully lift and replant them in a prepared border facing east, west or even north, putting them in 9 inches apart each way. They will soon form a mass of roots and be in good condition for planting in their summer quarters. Fig 4 shows a runner with a hard crown producing small flowers and more runners, as shown at Fig. 5—5. Of course, it is absolutely necessary to cut off these late runners as soon as they are large enough to handle, or they will rob the young plant of much nourishment. The other sketch, Fig. 6, shows the sucker growing with a free centre and producing large flowers. All blooms, however, must be pinched off regularly, as the main object is to get large plants for autumn, winter and spring flowering. The propagation of the plants is the same both in frames and in the open border. Fig. 7 shows a peg for fastening down runners. Old plants may be divided and the separate parts planted out, but it is not the best way to increase the stock, as much strength of plant is required, and this can only be obtained from the robust suckers.

Planting the Violets in Open Borders.—In the first place it is necessary to deeply dig the soil and to put in some rotted manure. If the soil is naturally light, it must be well enriched, less manure being required where a heavier loam obtains. The latter, well prepared, is the best for Violets. Do not use fresh, strawy manure in any case, but that which is well rotted. A single row of plants may be put out between rows of Peas in the vegetable garden, as shown at Fig. 8: A, rows of Peas; B, one row of Violets. Fig. 9 shows how to put out plants in a border facing the west, a good summer position for them. The large-leaved varieties, such as Princess of Wales, require a space of 18 inches between the rows and 16 inches from plant to plant in the rows. The smaller-leaved varieties may be planted 4 inches closer each way. It is very important that the surface soil be kept moistened at first to get the plants established, and afterwards it should be loosened with the Dutch hoe every week. Water when necessary and feed with nitrate of potash, 1oz. dissolved in three gallons of water, once fortnightly from the middle of June to the end of July. The small runners, as shown in Fig 10, must be pinched off while quite small. Plants treated in this way will be in excellent condition for lifting and planting in frames about September, to provide flowers during the winter months. It is useless putting weak, poorly-grown plants into frames as they can never give really satisfactory results. It is hoped to deal with the work of preparing the soil and transplanting the Violets just before the proper time for doing so. In the meantime every effort should be made, on the lines indicated above, to get as good plants as possible for the purpose.

Varieties.—Princess of Wales, De Parma, Marie Louise, John Raddenbury, La France and wellsiana are all good. G. G.



2.—SHOWING HOW THE YOUNG VIOLETS SHOULD BE PLANTED IN THE OPEN.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Pentstemons.—Young plants propagated from cuttings in the autumn and wintered in cold frames should now be in hardy enough condition to warrant their being planted out in vacant spaces in the borders. Where planted in the herbaceous borders it is best to make a nice clump of from three to a dozen plants.

Antirrhinums raised in the autumn either from seeds or cuttings may be treated in the same manner, while seedlings recently raised in heat should be pricked out 2 inches or 3 inches apart in boxes, or in the cold frames from which the others are taken.

Dahlias.—Cuttings should be potted off as soon as nicely rooted, keeping them in a little heat till established, when cooler treatment should be afforded them, potting them on into 4½-inch or 6-inch pots as they require it. This extra potting is quite necessary if good plants and early bloom are required. Early planting out is often fatal, and plants starved in small pots are very slow in getting away after being planted out. Stock plants may be put out in a cold frame where they can have plenty of light and air, with, of course, the necessary protection in case of frost.

Chrysanthemums.—Border varieties, as soon as well rooted in 3-inch pots, should be grown as hardily as possible. On mild nights the lights may be left off altogether, thus preparing them for the planting out, which should be done quite early in May.

Flower-Beds.—Many of the Narcissi planted in the beds will be going out of flower, and the flower-heads should be removed at once. Double Tulips, which are always rather late in opening, may require a stake to prevent them being damaged by wind and rain; but the tie must be loose, or the heads will break off as the flower-stems grow.

Plants Under Glass.

Peppers.—These are excellent pot plants, in fact, many of them make really good decorative subjects for the autumn months, a few good ones being Coral Gem Bouquet, Chameleon, Cerise, Cayenne, Old Red Chili and Red Cluster; while of the larger varieties that may be mentioned are Ruby King, Chinese Giant, Giant Red, Giant Yellow Nocera, Elephant's Trunk, Early Yellow and American Bullnose. Seeds should be sown in heat, potting off singly into pots as soon as large enough to handle and growing on in a heated pit.

Begonia Gloire de Lorraine.—A batch of cuttings should now be put in, and if the pots are plunged in a brisk bottom-heat, rooting should not take long. Cuttings taken quite from the base of the old stools usually make the best plants, though many people rely on leaf-cuttings; but I have not found them so generally reliable as the first mentioned.

Poinsettias.—Rested stools may now be cut fairly hard back and introduced into a warm, moist house to provide a batch of cuttings for striking during May, reserving a portion of the stock for later batches.

Euphorbia jacquiniflora may also be started soon, but these plants do not care for severe cutting back, and I prefer to leave these about a foot long, when stronger and more easily-rooted cuttings are likely to be emitted.

The Kitchen Garden.

Peas.—If properly hardened off, Peas raised in pots, boxes, or turves should now be planted out, choosing a day when the weather conditions are suitable. The soil should be broken up as finely as possible, thus ensuring the plants getting a good start, and if small stakes are put to them immediately after planting, they will afford a little protection. Dressings of soot also may be necessary to keep away slugs.

Broad Beans.—These also should be planted out at once, and if they have attained a fair height, a small stake and a tie may be required by each plant.

Cauliflowers are rather more tender than Peas and Beans, and a little protection should be provided when planting out. If a fairly deep and broad drill is taken out and the plants put out in the middle, it will protect them a little. The soil, if pulled in as the plants attain size, will keep them steady; also a small branch of Laurel placed over each plant will protect it in case of sharp frost.

Parsley.—Seedlings raised in a box or frame may now be pricked out in the open ground, and in cold soil such a system is often better than sowing early in the open ground.

Fruits Under Glass.

Tomatoes.—Plants setting their fruit should be fertilised with a rabbit's tail to ensure a good set, this being especially necessary when the house is not entirely devoted to the Tomatoes. In such a case the atmosphere of the house may not be all that is desired. Plants that are fruiting in small pots must not be neglected as regards manure, so that as soon as a truss or two are set it is as well to give a little top-dressing and so keep up the vigour of the plant, or weak trusses will result. Successional batches must be potted on or planted out as they require it, making a sowing during the next week or two to provide a good batch for early autumn fruiting.

Cucumbers that are fruiting also require liberal treatment in respect to manure and water, and where only one or two plants are grown, a little thinning of the fruit may be necessary to regulate the supply. The shoots also may require thinning, and where space is limited may be stopped at every second leaf. As often as roots appear at all thickly on the surface of the soil, top-dress with horse-manure and loam, about half and half.

Hardy Fruit.

Peach Trees on Walls will now have set their fruit—at least, where they have been sufficiently protected—and even now it is wise to allow a double thickness of old fish-netting to hang in front of the trees to protect them from the cold winds. Wherever the leaf blister appears, all the diseased leaves should be picked off and burnt and the trees given a good spraying over with sulphide of potassium at the rate of 1oz. to three gallons of water. Though this may not actually prove a cure, it may prevent it spreading.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Planting Sweet Peas.—Weather and the condition of the ground permitting, this operation should be carried through at an early date. If not already attended to, the clumps or lines along which the Sweet Peas are to be planted should have a dressing of pigeon or fowl manure, or one of soot and superphosphate, which should be forked in a few days prior to planting. If the plants have been raised in boxes, they should be carefully lifted and planted with a trowel 1 foot apart if the highest results are to be obtained; but for general decorative work 6 inches apart is quite sufficient.

Montbretias in Pots.—Many of the Montbretias are worth more trouble than is often taken with them. We pursue the following system here, with highly satisfactory results: When lifting the bulbs in the autumn the clumps are broken up, generally into halves. We then pot them up into 6-inch pots. They are wintered in a cold frame, and about the middle of March are stood outside in some sheltered spot. About this date they are planted, with the balls intact, either in masses or lines.

Sweet Violets.—Runners—rooted if possible—should now be taken from the plants in frames and planted 1 foot apart in a plot which has been specially prepared for them. Violets require liberal cultivation, with cool conditions.

Plants Under Glass.

Cannas.—If started in small pots last month, these will now be ready for a shift, and as they are vigorous growers, they may at once be transferred to their flowering pots. Cannas delight in a rather porous, rich soil, and as they have fleshy roots, they should be potted rather loosely.

Stopping Chrysanthemums.—All the classes of Chrysanthemums require stopping more or less. Stopping in the big-flowered section has been reduced to a fine art and cannot be dealt with in a small space. Those who have not learned the art should study the directions given in such a price-list as that of Messrs. Wells, Limited, Merstham. Bush plants should be stopped when about 6 inches high, stopping the freer-growing varieties again when the plants have made about another six inches of growth.

Strobilanthes dyerianus.—To see this fine foliage plant to advantage it must be grown liberally in a brisk temperature, and as its bright colouring fades with age, successional batches of cuttings should be struck.

Fruits Under Glass.

Peaches.—The tying in of the shoots must be attended to as growth advances. The young shoots can often be tied alongside the older bare ones; but in any case they should be as evenly distributed as possible, special care being taken to fully expose to the light the succession shoots at the bases of the bearing ones.

Figs.—In early houses where the fruit is swelling, the temperature should be raised somewhat, the atmospheric moisture being increased in proportion. As the fruit begins to ripen, however, the air should be kept in a drier condition.

Melons.—If any of the plants show signs of canker at the neck, the affected part should have a little dry powdered lime or powdered charcoal applied to it. If, however, the plants were slightly raised above the general level at planting-time and ventilation has been carefully attended to, there is seldom any trouble with canker.

The Hardy Fruit Garden.

Grafts.—If the weather continues dry, grafts should be examined; and if found to be too dry, a little damp moss should be tied round them and sprayed every few days till growth takes place or rain occurs.

Loganberries.—This useful fruit is now throwing up young shoots freely, and all superfluous ones should be thinned out. The number to be left must be determined by the amount of space to be covered.

The Shrubbery.

Evergreens may still be planted, but the work should be completed as soon as possible. If dry conditions obtain, the newly-planted stock ought to be watered at the roots and be sprayed overhead in the afternoon.

The Pleasure Grounds.

Amelanchier canadensis.—The Snowy Mespilus is one of our most floriferous and most beautiful ornamental trees, and deserves to be more widely cultivated. Its only defect is its slowness of growth. It does best in bush form or as a standard grafted on the common Hawthorn.

The Kitchen Garden.

Kidney Beans.—A sowing of an early variety, such as Ne Plus Ultra, should now be made on a south border in rows 21 inches apart, with 6 inches between the seeds. If the seeds are steeped in tepid water for twelve hours previous to sowing, germination will be accelerated.

Asparagus.—The beds should have a dressing of rotted manure forked into them. Seed may now be sown and plantations made. The latter operation must be carried through with great care, as the plants suffer very much if the roots are exposed to the air for any length of time.

Beetroot.—This useful vegetable may be sown during the next week on ground that has been deeply worked and has had no rank manure applied to it. The drills should be about eighteen inches apart. There are many varieties to choose from, but I can thoroughly recommend Goldie's Exhibition and Frisby's Excelsior.

Spring-Sown Onions.—Those raised under glass may now be planted out according to the directions given last week for the autumn-sown crop. Of course, where extra large bulbs are desired, ample space must be allowed for their development, a square foot not being too much for each bulb.

Broad Beans.—Another planting should now be got in for autumn supply.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE FIFTY BEST ALPINES.

THE lists of choice alpines which appeared in The Garden for March 1 and March 15, from Mr. Arnott and Mr. Farrer, have been exceedingly interesting to all lovers of these choice little gems. Although I have nothing like the extensive experience of your two well-known and able correspondents, yet "fools will enter where angels fear to tread," and at the risk of being classed among the former I now enclose a list of what I consider to be the best fifty. In this list are included several commoner sorts which seem to be ignored by the more experienced growers; but although common and easily grown, they are none the less beautiful. The Gold Dust (Alyssum saxatile compactum) and the Crimson Thyme (Thymus Serpyllum coccineum) are both unique in their respective colours, which, when seen in a mass, are perfectly dazzling in the sunshine.

I found curtailing the list to fifty a more difficult matter than extending it to one hundred would have been, many beautiful and useful plants having had to be eliminated. This difficulty would have been considerably increased if shrubby plants and bulbs had been included. Perhaps at a future date lists of both of these beautiful and indispensable plants for rockeries might be given [Yes.—Ed.], as I have no doubt such would prove as interesting and helpful as the lists of alpines have been.

Name.	*Height. Inches.*	*Aspect.*	*Soil.*	*Colour.*	*Flowering Period.*	*Means of Propagation.*
Achillea argentea	4	Sunny	Loam	White	Summer	Division
Androsace Chumbyi	3	Partial sun	Peaty	Pink	,,	,,
Arenaria balearica	3	Shady	Loam	White	,,	Seed or division
A. montana	6	Sun	,,	,,	Early spring	Division
Alyssum saxatile compactum	6	,,	,,	Golden y'll'w	Spring	Seed or cutting
Aubrietia Leichtlinii	6	,,	Sandy loam	Rosy carmine	Spring	Cuttings
A. Dr. Mules	6	,,	,, ,,	Purple	,,	,,
Campanula muralis	6	Sun or shade	,, ,,	Blue purple	July and Aug.	Division
C. pulloides	4	,,	,, ,,	Dark blue	Summer	,,
Cheiranthus mutabilis	12	Sun	Loam and limestone	Buff and purple	Early summer	,,
Cortusa villosa	6	Sun or shade	Loam	Dark red	Summer	Seeds
Dianthus alpinus	4	Sun	Loam and limestone	Rosy crims'n	,,	,,
D. neglectus	3	,,	Loam and limestone	Deep rose	,,	,,
Dodecatheon media	12	Shade	Loam and peat	Rose	May and June	Division
Erigeron philadelphicus	10	Sun	Loam	Rosy pink	Summer	,,
Erinus alpinus	3	,,	Loam and lime	Light purple	Spring	,,
Gentiana acaulis	4	Half shade	Stiff loam	Blue	,,	,,
Geranium argenteum	6	Sun	Ordinary soil	Blush	Summer	Seed
Helianthemums	10	,,	Sandy loam	Various	,,	Cuttings
Hepatica angulosa	3	Shade	Light loam	Rich blue	Early spring	Division
Heuchera sanguinea splendens	15	Sun	Loam	Scarlet	June to Aug	Seeds
Hutchinsia alpina	3	,,	,,	White	Summer	Division
Hypericum reptans	4	,,	,,	Golden yell'w	,,	,,
Iberis sempervirens Little Gem	4	,,	,,	White	,,	Cuttings
Lithospermum prostratum Heavenly Blue	4	Partial shade	,,	Blue	,,	,,
Lychnis Viscaria splendens plena	10	Sun	,,	Rosy red	,,	,,
Meconopsis cambrica fl.-pl.	12	Sun or shade	,,	Orange	,,	Seeds
Mertensia virginica	12	Semi-shade	,,	Pale blue	Early summer	Seed or division
Onosma tauricum	6	Sun	,,	Pale yellow	Summer	Cuttings
Phlox canadensis Laphamii	15	,,	,,	Pale blue	,,	,,
P ovata	6	,,	,,	Deep rose	Early summer	,,
P subulata Nelsonii	6	,,	,,	Snow white	,,	,,
Potentilla Tonguei	4	,,	,,	Orange red	Summer	Division
Primula marginata	4	Semi-shade	Moist loam	Purple	Early spring	,,
P cockburniana	6	,,	,,	Orange scarl't	,,	Seeds
P nivalis	4	,,	,,	White	,,	Division
Ramondia pyrenaica	4	Shade	Peaty soil	Lilac blue	Early summer	Seed or division
Ranunculus amplexicaulis	12	Partial shade	Loam	White	,,	Division
Sanguinaria canadensis	6	,,	Sandy loam	,,	,,	,,
Saxifraga pyramidalis	18	Sun	,,	,,	June and July	Offsets
S. Wallacei	6	,,	,,	,,	Summer	Cuttings
S. burseriana	3	,,	Gritty soil	,,	March	Division
Silene alpestris	4	,,	Loam	,,	May to July	Seed or division
S. Schafta	6	,,	Sandy loam	Rosy purple	Late summer	Seed
Thymus Serpyllum coccineum	3	,,	,,	Bright red	Summer	Division
Trillium grandiflorum	9	Shade	Leaf-mould and loam	White to rose	Spring	,,
Tunica Saxifraga	6	Sun or shade	Loam	Pale pink	Summer and autumn	Seed
Veronica prostrata	4	Sun	,,	Blue	Summer	Cuttings
Viola gracilis	4	Semi-shade	,,	Violet blue	,,	,,
Vittadenia trilobata	8	Sun	,,	White and rose	March to October	,,

Ochilview, Bridge of Earn. WILLIAM LITTLE.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Douglasia lævigata.—A pretty and rare plant from the Alps of Oregon, closely allied to Androsace. The entire plant is not more than 1½ inches high, of close-tufted habit, after the manner of a free-growing Androsace carnea, above which the rosy red flowers appear in clusters. The certificated example was shown in a pot 5 inches in diameter, which it nearly filled. Few of the hardy plant specialists had seen this gem in such condition before. From Mr. Reginald Prichard, West Moors, Wimborne, Dorset.

Carnation Mrs. Wilfred Gott.—A pure white-flowering variety belonging to the Perpetual-flowering Malmaison section, and an acquisition to boot. Plants in pots were shown demonstrating great freedom of flowering and an entire absence of calyx splitting. The plants, although growing in small pots, showed exceptional vigour, the stiff, erect stems carrying the handsome flowers without support. One of the best attributes of the newcomer is its powerful Clove-like fragrance, a quality which cannot fail to make it popular with all. From Messrs. William Cuthbush and Sons, Highgate, N.

Primula viscosa Othello.—A beautiful and showy variety, said to have resulted from the crossing of Auricula Innocence and a selected variety of Primula viscosa. Except for the increased vigour of the above, there is no external evidence of the influence of such a cross, the best attributes of the Primula being seen in an enhanced degree. The colour is rosy red and very effective. The plant is very free-flowering.

Primula viscosa Jean Douglas.—This charming alpine Primula resulted from the crossing of P. viscosa and P. intermedia. The colour is a warm rosy tint, the trusses, like those of the first named, large and abundantly flowered. These were shown by Mr. J. Douglas, Great Bookham, Surrey.

Narcissus White Emperor.—We regard this as an unfortunate name applied to a flower of sterling merit. In the first place, it is not an Emperor in any sense, though the name might suggest that it was either a seedling or white sport from that well-known highly-popular sort. In short, it is superior in many ways to Emperor, more particularly in the fine overlapping character of the perianth segments and in their firm texture. This fine white Narcissus is of distinguished bearing. See illustration on page 184. Shown by Messrs. Cartwright and Goodwin, Kidderminster, and Mr. Christopher Bourne, Bletchley, who, we understand, are sharing the stock of this handsome novelty.

NEW ORCHIDS.

A number of novelties, some of them of exceptional value, were brought before the Orchid committee. No fewer than five first-class certificates were granted. Cymbidium Humblotii, shown by Messrs. Charlesworth and Co., secured this high award, with a cultural commendation in addition. Other novelties to gain first-class certificates were: Brasso-Cattleya heatonensis Canary and Cypripedium Roundhead, both shown by Lieutenant-Colonel Sir George Holford; Odontoglossum eximium Warnham Court, from C. J. Lucas, Esq., Horsham; and Lælio-Cattleya dominiana Southfield variety, from Waters Butler, Esq.

Awards of Merit.—Cattleya intertexta Juliettæ, shown by Firmin Lambeau, Brussels; Odontioda Cooksonæ Ralli's variety, from Pantia Ralli, Esq., Ashtead Park; and Odontioda keighleyensis ignifera, shown by Messrs. J. and A. McBean.

The foregoing awards were made by the Royal Horticultural Society on April 1, when all of the novelties were shown.

THE FRUIT GARDEN.

MEALY BUG ON PEACHES.

THE mealy bug often causes a lot of trouble among the Peaches about this time. Fumigation may be resorted to, but unless it is constantly repeated the new broods hatching out seem to establish an ever-increasing army difficult to overcome. Should only an odd insect or two be noticed, the simplest method is to touch the bug with a drop of methylated spirit at the end of a stick—an old-fashioned and effective remedy. If in large numbers, however, I strongly recommend syringing with an insecticide once a week. This must be done regularly, and as syringing is always being carried out, very little extra work and trouble is entailed by the process. I have tried many insecticide washes, and the following has proved the best, most effective and cheapest: Take one gallon of warm rain-water and into it measure a teaspoonful of paraffin and a like quantity of soft soap (the disinfectant soft soaps now sold are by far the best for making

up horticultural washes, and they are just a trifle dearer than the ordinary soaps). Churn the mixture to get a thorough emulsion. To assist this, draw it up in the syringe and squirt it back into the pail a few times. Keep stirring it all through the process of spraying, in case the oil separates out. Larger quantities are made up in proportion. The wash should be about the same temperature as the Peach-house before spraying.

Syringe the tree from various directions to get at all parts. Apply in the afternoon, and then syringe again with tepid water the following morning. This remedy is most effective, does no harm to the trees, and tends to keep down all other pests as well

Chryston. HUGH H. AITKEN

PRICKING OFF SEEDLINGS OF ALPINE FLOWERS.

THE raising of seedlings of alpine flowers is pleasant and interesting work which may well be recommended to the amateur who desires to secure a stock of such plants at a moderate cost. Many plants of good alpines can be obtained from seeds with but little trouble, although some time is required for pricking off the seedlings. This should be performed at the earliest suitable time, as in this way strong, healthy plants can be secured.

It is always desirable to prick off the seedlings as soon as they have made a pair of their second or true leaves, even though the plants are then very small. A compost of fibrous loam, leaf-soil and sand in about equal proportions will answer well, although any good garden earth or loam lightened with leaf-soil and sand will answer well. Clean pots or pans can be employed, but boxes will do quite well if they have plenty of holes bored in them and a sufficient depth of drainage put in the bottom. These boxes require about the same depth of drainage as pots, and about a third of the depth of the box or pot filled with drainage is not too much. Over the drainage put some of the rougher compost; then fill up to within about half an inch of the top, and press the compost gently but firmly down with a piece of wood.

The seedlings ought to be carefully lifted out of the seed-pot so as to injure the rootlets as little as possible, and to avoid disturbing the seedlings which are not large enough to prick off. If the seedlings are very small, a piece of wood, like a pointed match, may be employed to lift out the young plants and to make a hole for planting them in the box or pot to which they are being transferred. When the seedlings are inserted, they should be put in to the base of the first leaves, and the soil gently firmed about them. When the whole have been removed, the box should be thoroughly watered with a fine rose, the plants kept rather close for a day or two, and then gradually be given air.

If the whole of the seedlings are turned out of the pot and the soil thrown away, much loss will result, as there are frequently many seeds which have not germinated, but which will do so later, many even appearing the following spring. This is specially the case with such things as Primulas, Gentians and many others. Early pricking off, careful handling of the seedlings, thorough drainage of the pots or boxes in which they are placed, and proper after-attention in the way of giving air and water will be well repaid by securing a number of healthy plants. AN OLD ALPINIST

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

VIOLETS (*Mrs. F. F.*).—The appearance of the Violet leaves suggests that all is not quite right with the drainage, and that the ventilation has not been as free as it should have been at times during the past particularly mild and damp winter.

PERGOLA PATH (*A. H. E.*).—The least expensive path would be one of gravel, or the burnt ball ash common to many country places. The gravel may possibly bind well; the other will not, at least alone. Bricks or tiles would require to be set in mortar, or they would move about. Clean screened cinder-ashes mixed with lime or cement would be as cheap as anything, and employed in this way would not prove unsightly. Borderings of Mossy Saxifrage, say, S. hypnoides variety, or white garden Pink would do quite well. Both are of easy culture and inexpensive, and while costing little for the upkeep, would prove effective for some time.

ROCK GARDENING (*B. M. B.*).—A book likely to be of service to you is "Rock and Water Gardens," by the late F. W. Meyer, published at 6s. net at the office of this paper. Independently of this, or even in conjunction therewith, you might study the valuable series of articles entitled "Rock Gardens in the Making," which, commencing in the issue of THE GARDEN for October 26, 1912, were continued weekly to the end of that year. This series deals with many phases of the work. If, however, you are contemplating building a rock garden, and have but little knowledge of the subject, your better plan would be to confer with a specialist on the spot. The position appears to be in some respects favourable, assuming it is not so near the sea as to suffer from the ill-effects of the salt spray.

INCREASING LEUCOPHYTA BROWNII (*H. O.*).—We have made enquiries and cannot find that seed of Leucophyta (Calocephalus) Brownii is obtainable. The general method of increase is by means of cuttings, which are not at all difficult to root. They should be taken off at a length of a couple of inches or thereabouts, and be dibbled into prepared pots of fine sandy compost. After this they need to be placed in a close propagating-case, and if there is a slight bottom-heat, so much the better. If the case is too close—that is to say, if there is an excess of atmospheric moisture—the cuttings are liable to damp off. In the summer cuttings may be struck in an ordinary garden frame without any artificial heat, provided the frame is kept close and shaded from direct sunshine until the cuttings are rooted.

IRISES FOR RIVER BANK (*M. M. C.*).—There are no Irises more suitable for the purpose than those known as Flags, and these, while crowning the top of the bank, might overflow down the bank itself. If you desire a bold display at the top, we would suggest that you employ only one variety, viz., pallida, and arrange for a yard-wide band of it. If you desire more than one variety, we suggest Queen of May, Mme. Chereau, Gracchus, Dr. Bernice and Mrs. C. Darwin to make a distinct set. Down the bank the common purple Flag and Princess of Wales, white, would do perfectly. You might plant at once, giving all a fair start in deeply-dug soil We presume the bank soil is not infested by wireworms, which are partial to these Irises. You might establish Daffodils in plenty on the bankside by planting bulbs in autumn Scarlet Dogwood, Flowering Currant, Berberis Darwinii, Spiræa, Deutzia and Weigela in variety are shrubs that would prove useful for the purpose. The Irises and Daffodils, with Dogwood for winter effect, would, we think, produce the best results.

PRIMULAS AND AURICULAS (*J. H. P.*).—We need not advise Auriculas, as you already do them so well, but the following Primulas, in addition to those enumerated by you, should succeed under the conditions named: P. bulleyana, P. capitata, P. cockburniana, P. denticulata, P. d. alba, P. floribunda, P. Forbesii, P. involucrata, P. rosea, P. Sieboldii in variety, P. viscosa, P. v. nivalis, P. v. Mrs. H. J. Wilson and P. Veitchii. We have at one time or another met with a dozen forms of double Primrose, but cannot say whether they are all in existence now. In a catalogue of one of the principal hardy plant nurseries we note eleven varieties mentioned. It gives us great pleasure to learn that you have been so successful with your Auriculas, more especially as you have gained your information from THE GARDEN. It has always been our aim to assist our numerous readers as far as possible, and the many grateful letters that we receive show that our endeavours have been largely crowned with success. We trust that your display of Auriculas will in every way come up to, or even exceed, anticipation.

PLANTS FOR HIGH, DRY WALL (*M. M. C.*).—If the wall is quite dry and no soil exists between the stones, you will have difficulty in establishing plants therein. If, however, you can introduce a little soil into the crevices, such things as Aubrietias, Alyssum saxatile, Zauschneria californica, Iberis sempervirens, Erinus alpinus, Snapdragons, Thrift, Iceland Poppies and Centranthus ruber may be grown. The whole of these may be introduced by means of seeds, mixing a pinch of seed with a plot of moist soil and working it into the crevices. If this quantity of soil was distributed over a 2-feet run of the wall, a group would be presently formed; or perhaps you may like your wall to be a mass of Aubrietia in May and June, and if so, the entire wall may be treated with varieties of these plants, which afford sheets of colour in pink, violet and lilac. The best plants for the paved walk would be Campanulas pusilla and alba, pulla and muralis, Mentha Requienii, Arenaria balearica, Erinus alpinus, Linaria pilosa, Thymus Serpyllum coccineum and Sedum hispanicum glaucum, all of which, save Erinus, should be introduced by means of small pieces of plants into the crevices between the stones. The present is a good time to plant.

FAILURES IN SWEET PEAS (*H. H.*).—In the first place, we advise you not to plant your Sweet Peas in a deep trench which has been partly filled with well-rotted manure, though certainly the ground should be well trenched all over, and where the rows are to come there may be a slight depression, just sufficient to allow the moisture to run towards the rows rather than away, this more for economy when applying water artificially; but if your ground is heavy, plant or sow quite on the flat. We have only come across one lot of Sweet Peas that acted in the same manner as yours—grew quite well and failed to open or throw many bloom-buds—and this was also on a rather low and damp position. Earlier in the season we should have advised you to have given the soil a thorough good liming all over, and even now, if the plants or seeds are in the ground, you might give the ground a fair sprinkling of fresh-slaked lime, taking care not to get too much of it on the young foliage. This may prove all that is necessary. Instead of the lime, or in addition to it, you might give the rows a dressing of superphosphate of lime and sulphate of potash, say, 1oz. of each to each yard run. This may be given two or three times during the growing season at intervals of two or three weeks.

THE GREENHOUSE.

INJURY TO BEGONIAS (*Begonia*).—You should always send specimens when asking for advice, for that enables us to be more certain of the cause of the trouble enquired about. There are two causes for the so-called "rust" in Begonias—eelworm and mite. Probably the latter is at work in your plants; but it is very difficult to see without a powerful lens. We think you will find (if the mite is the source of the trouble) that dipping the plants now and then in a wash made by kneading flowers of sulphur into a handful of soft soap and dissolving it in one and a-half gallons of warm water will be the best remedy.

DAFFODILS FAILING (*P.*).—It is difficult to give a reason for the comparative failure of some of your Daffodils, but one thing struck us. Although you say they were treated on the lines laid down by the Rev. J. Jacob in his book, you mention they have been in the Auricula-house throughout. Now, the Rev. J. Jacob in his book advises them, when potted, to be plunged under Cocoanut fibre refuse or ashes outside till they are well rooted. If you overlooked this, it might be answerable for your very limited success. Again, success or otherwise will depend upon the vigour and condition of the bulbs, as if they contain but a single flower in embryo, a solitary bloom is all that one will have, however they may be treated. We should advise you to water the bulbs until they die down naturally, and then plant them out next August or September.

GREENHOUSE FLOWERS FOR CUTTING (*D. C.*).—Wallflowers sown now, afterwards planted out, and in the autumn lifted and carefully repotted will flower well in the greenhouse. The Antirrhinums, Dianthus and Campanula pyramidalis would not prove satisfactory for winter flowering. Mignonette should be sown in July and August. Two good varieties for the purpose are Machet and Queen Victoria Other subjects that can be recommended for flowering in such a structure are Forget-me-not, sown now and potted up in the autumn, while hardy Primroses are also satisfactory if carefully lifted and potted. Seeds of Primula sinensis, P. kewensis and P. obconica may be sown now, and Stocks Beauty of Nice and East Lothian in May. Besides these, some of the late-flowering Chrysanthemums are very valuable in the greenhouse. These can, as young plants, be purchased at a cheap rate now. Bulbs, too, are worthy of consideration, though the bulk of them do not flower till the new year is one or two months old. Roman Hyacinths potted in August will, however, flower by Christmas, while Crocuses will, under glass, anticipate by some time their usual season of flowering out of doors.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The Mezereons.—The varieties of Daphne Mezereum are flowering exceedingly well this spring, so that the popular idea that the want of ripening caused by the wet summer would prevent them blooming so freely has not been borne out by facts. Rarely, if ever, have we seen bushes so full of bloom as this spring, and some of them are literally laden with flowers. Curiously enough, they are flowering later than usual.

Wallflower Early Paris.—This useful plant is undoubtedly one of the most valuable of Wallflowers, owing to the long period it may be had in bloom. By sowing seeds now, flowers may be had from the end of the summer on through the autumn and winter—providing they are planted in a warm, sheltered spot and the weather mild—till the spring, when they are followed by the Wallflowers that are usually grown, giving us this favourite flower most of the year. The Early Paris type can be had in yellow and brown shades, and seed is cheap.

Fasciated Stock.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. H. Stuart Thompson sent from Carquieranne, South of France, part of a fasciated example of Matthiola sinuata bearing hundreds of flowers and having a stem about two and three-quarter inches in width. Though fasciated plants are very frequently shown before the committee—perhaps more frequently than those showing any other aberration of growth—Stocks have rarely or never been exhibited in this condition. The present specimen was growing on the cliff outside an hotel garden, and others there showed a similar habit of growth.

Newly-Planted Fruit Trees.—In many districts, owing to the very wet and sticky condition of the soil, the planting of fruit trees could not be carried out in such a satisfactory manner as when the earth is more friable. Now that it is becoming drier, cracks of various sizes will probably appear, which must be immediately filled, and it will be expedient to see that the soil is quite firm around the base of the trees. The wind has also been very rough in most parts of the country, and it behoves the grower to see that his trees are secure, especially where any staking has been done, for it sometimes happens that the tying material or stake is chafing against the tree, which will cause irreparable damage unless given prompt attention.

Tulips in Grass.—As far as we can gather, there seems to be great doubt if Tulips will continue to bloom more than one or two years when they are planted in grass. The bulbs will go on living, and year by year they will send up a large single leaf, as much as to say, "I am here all right, but no bloom this year." Our contributor the Rev. J. Jacob is most anxious to gather reliable information about their behaviour from those who have grown them in this way. A wider knowledge of this important branch of Tulip culture is much wanted. We heartily endorse Mr. Jacob's appeal and hope he will have many communications on the subject, so that later on in the year he may be able to place before our readers some reliable facts. His address is Whitewell Rectory, Whitchurch, Salop

Primula japonica as a Water-side Plant.—People who are only familiar with this species when it is grown as a single specimen or as a small group can have no idea of its imposing character when cultivated on an extensive scale, as is sometimes practised in gardens in the South-West Counties, and particularly at Enys, near Falmouth. In the latter garden it is naturalised in the vicinity of the lake, and covers a considerable area of ground, the plants being particularly vigorous, the leaves large, the inflorescences tall and strong, and the colour of the flowers rich. There is no necessity to introduce fresh stock at any time, for an abundant supply of self-sown seedlings appear. It is, however, necessary to weed out the poor-coloured forms each year, for by this means only can the best strain be kept.

A Simple Cure for Black Spot in Roses.—In the National Rose Society's Annual, fuller particulars of which appear elsewhere, Dr. Arthur R. Waddell gives some most interesting and instructive information on the treatment of black spot, a fungus that attacks the foliage of Roses very badly in some districts. Dr. Waddell has proved that commercial formaldehyde (40 per cent.), one tablespoonful to a gallon of water, is an excellent preventive. This should be sprayed on to the plants and also the soil at frequent intervals during the growing season. Dr. Waddell has also found it answer well for mildew and Rose black mildew. This commercial formaldehyde can be obtained cheaply and is clean to use. Rose-growers will, in future, be able to successfully combat the pests mentioned above.

The Chatham Island Forget-me-not.—Although suggestive of an ordinary Forget-me-not, Myosotidium nobile belongs to a different family. Writing in the *Lyttleton Times* of May 2, 1906, Dr. Cockayne describes it fully, and mentions two other but less appropriate common names which are sometimes used, viz., Chatham Island Lily and Macquarie Cabbage. Under natural conditions the plant is said to be almost extinct, though at one time it formed a continuous belt along the seashore just above high-water mark. In those counties where it thrives it is certainly a plant which ought to be widely grown. It would not, however, be wise, in the face of its being well known to be suitable only for certain localities, to make an extensive planting without previously testing its ability to withstand the climatic conditions of the district.

CORRESPONDENCE.

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

Annual Saxifrages.—In The Garden of April 5 your correspondent H. E. Molyneux, referring to Saxifraga Cymbalaria, writes: "I believe the only annual member of this large family." Our delicate little native S. tridactylites is another.—G. G. T., *Strathavon, N.B.*

Platystemon californicus and its Common Name.—In your issue of April 5, page 171, in an article containing a reference to Platystemon californicus, the writer queries the existence of a more common name for this interesting plant. There is one, and he is not far from the mark in suggesting Cream. The garden name is Cream Cups. I think that is correct.—H. A. Day, *Eltham, Kent.*

A Beautiful Colour Combination.—Your note on this in The Garden for March 29, page 153, encourages me to make mention of a similar lovely combine I took notice of last year. The discovery came more by chance than by set purpose. At the top of a small rockery were a few plants of Linum perenne, while immediately below a few bare places existed. To hide these latter some plants of the Ivy-leaved Geranium Mme. Crousse were obtained and planted. When they both came into flower, the effect was really splendid; the light pink trusses crouching at the feet of the graceful swaying blue spikes at once arrested the attention. It has since occurred to me that the arrangement of these two plants would make a striking summer bed. The Ivy-leaved Geranium would be trained over the bed to make a groundwork, and the Linum used as a dot or upright plant at intervals.—C. Turner, 3, *Kenwood Road, Highgate, N.*

The Parrot's Bill Plant.—No more beautiful wall plant than this, Clianthus puniceus, can be found for planting in Devonshire, Cornwall and other places with a similar climate, for from mid-March to early June it blossoms with great freedom, the flowers being of a peculiarly showy character. A native of New Zealand, it has long been in cultivation, and is a favourite plant for growing on greenhouse rafters and pillars in many parts of the country, but in such positions it can rarely be allowed to develop so freely as is the case when it is planted against outside walls. Its evergreen, pinnate leaves keep fresh and bright, and furnish a delightful setting for the rich red flowers, which appear in large terminal inflorescences. Each flower is from 2 inches to 3 inches long and curiously shaped, the shape having suggested the common name of Parrot's Bill Plant, which is current in New Zealand. C. puniceus is not a difficult plant to grow, but it requires frequent renewal, for after giving good results for several years it begins to deteriorate, and should then be replaced by a young specimen. There is a white-flowered variety, but it is less showy than the type.—W. D.

Snow in Norfolk.—Norwich and Norfolk experienced the full force of the snowfall on the 11th inst., quite 5 inches falling, and with a strong wind much damage was done to the spring flowers. The Narcissus family seems to have fared worst. Generally speaking, the blooms of these were at their best, but the weight of the snow brought them down to the soil and utterly ruined thousands. On the morning of the 12th a frost followed, but, previous to this, much damage had been done to the Plum blossom by cutting winds, which had shrivelled tender subjects as if they had been burned.—Aytch Pea.

WELL-GROWN PLANTS OF SAXIFRAGA GRISEBACHII IN BAVARIA.

The Scarlet Windflower Failing.—Mr. S. Arnott's desire, on page 181, April 12 issue, to discover the cause of failure of this lovely subject is welcome. In the home of my childhood it flourished year after year in ordinary perennial beds, receiving, so far as I know, no special treatment. The soil was shallow, on limestone rocks with perfect drainage, and in the same mixed beds I remember great mats of Daphne Cneorum. Alas! now both are gone. In another garden for a number of years several beds of Anemone fulgens flowered regularly with the greatest profusion. The position was high, 600 feet above sea-level. The beds were on the top of a sloping bank which falls rapidly towards the west. The soil was a light, gravelly loam, with limestone rock just below. The tubers were planted deeply and never moved, and in the summer the surface was used for bedding plants; yet for many years they continued to be a perfect success, vigorous, increasing, a mass of blooms, until a new gardener with new methods soon settled them. I have had success with first season new tubers, but failure afterwards, although a few isolated clumps that are neglected and in apparently unsuitable places never fail to bloom well.—Ernest Ballard *Colwall near Malvern.*

Seasonable Advice.—In our intensive methods of modern cultivation we have come to recognise that diseases and plant pests are making great headway against us, and that every precaution ought to be taken to eliminate all chances of bringing fresh troubles into our gardens. I have conducted many experiments in connection with this matter and made a large number of investigations, and I want to warn readers that every fresh plant which is brought into the garden should be sterilised or disinfected. To do this, liver of sulphur solution (1oz. per two gallons), Bordeaux mixture, Quassia solution churned up with soft soap, or some of the valuable proprietary insecticides and fungicides advertised in these columns should be employed, and new plants sprayed from top to bottom. Only by such methods can one expect to preserve a garden pure and free of pests, and the plan is thoroughly efficient if consistently practised, besides being well worth the trouble. A garden free of pests and diseases is a "thing of beauty and a joy for ever," and greatly to be desired in these days of advancing horticultural science.—Hugh H. Aitken.

Saxifraga Grisebachii.—From the note in your issue for March 8, page 120, I was surprised to learn that this Rockfoil does not thrive so well as could be wished for in England. This is a great pity, for the species is really of exceeding beauty when it grows away freely. Maybe the difficulty is confined to some localities with exceptional climatic conditions. The report from a place where the plant gives no cause for complaint may be welcome, and perhaps show the way to success. I have a plant on my rockery which forms a firm, close cushion, having at the present time thirty rosettes, sixteen of which bear flower-spikes. For this plant a hole 8 inches deep by 4 inches wide was cut in the top of a block of hard tufa rock, and a small channel to drain off water was driven in laterally to the bottom of that hole. This receptacle was then filled in with calcareous, gritty, loamy soil, with a little peat, into which pieces of sharp-edged limestone of Walnut size were closely pressed, the whole being firmly pressed down as the work went on. When the top was reached, the plant—then a simple rosette—was inserted a little above top-level. In course of time, through the action of rain and waterings, some soil was washed away from the neck of the rosette, so as to leave it a little raised up, the method of planting resembling, in fact, that recommended for planting Androsace helvetica. The plant has now occupied this place for five years, always looking healthy, and it has since increased to the size above mentioned. The aspect is south-west, a position which few species of the encrusted section could stand unscathed; but neither the scorching sun of 1911 nor the unceasing rains of last season harmed it. The illustration shows four alpine pots, some with one, others with originally two or three single rosettes, the latter having now grown together into one compact tuft each. These plants have a little more soil, and the rosettes are of great size, some measuring 2 inches across. These plants are now four years old, and are bearing twelve, sixteen, eighteen and twenty inflorescences respectively. I have increased this Saxifrage considerably during the last five years without any difficulty. I will not close this note without a word in favour of another lovely species, S. thessalica, not quite so imposing, but sweetly pretty with its more modest little purple spikes.—E. Heinrich, *Planegg, near Munich, Bavaria.*

Calceolaria Veitchii.—As a supplement to the article on Calceolaria alba on page 157, March 29 issue, attention may well be directed to a delightful hybrid from it, namely, Calceolaria Veitchii. This, which was given an award of merit at the International Exhibition last May, was raised at the nursery of Messrs. Robert Veitch and Son of Exeter, the parents being C. alba and an albino form of that pretty garden variety Golden Glory, which was also raised at Exeter and is now much grown. A prominent characteristic of C. Veitchii is its extreme vigour, in which respect it greatly surpasses either of its parents, as it forms quite a bold bush from 3 feet to 5 feet in height and bears a great profusion of milk white flowers, with, when first expanded, a slight yellowish tinge. The foliage is, except in size, somewhat after the manner of C. alba, as the leaves are lanceolate in shape and much serrated. It comes readily from seed, and the young plants grow away freely. Besides this, it may also be struck from cuttings. Another variety shown at the "International" by the same exhibitors was Bronze Age, a plant 18 inches to 2 feet in height, of a loose, pleasing habit of growth, and bearing good-sized flowers of a rich bronzy crimson colour. Both are good decorative subjects for the greenhouse.—H. P.

How to Grow Saxifraga burseriana.—Beginners in the art of growing alpine plants have many difficulties to contend with, but the difficulties are increased when those who offer instruction as to the method of treating the plants differ among themselves. Take, by way of example, Saxifraga burseriana. Mr. Reginald Farrer, in "The Rock Garden," page 68, says "This (S. burseriana) detests sunshine and open positions," &c.; yet in his other work, "My Rock Garden," he classifies S. burseriana among the Kabschia Saxifrages, which, as he states on page 115, require light, limy loam, and an open but not too sunburnt exposure. Compared with one another, most people would say that these two statements are contradictory. Having tried S. burseriana and its varieties Gloria and Magna in a partially-shaded position, with the result that I obtained one bloom from the three plants, I sought out other authorities. On consulting Robinson's "Alpine Flowers for Gardens," I find "it soon forms good-sized tufts, preferring a dry, sunny situation." On my appealing for advice to Mr. Clarence Elliott, who has exhibited magnificent examples of S. burseriana Gloria at recent Royal Horticultural Society's shows, he wrote me that I should give a south or south-west aspect. Now will some of your readers who have had more experience than I have had be good enough to vouchsafe information on the subject? He would be a bold man who would suggest that Mr. Farrer has made a mistake in the advice he has given in "The Rock Garden," but it looks like it. Would Mr. Farrer also be good enough to say which he really thinks is the correct method of growing this (to me) difficult plant?—Alpinist.

FORTHCOMING EVENTS.

April 22.—Midland Daffodil Society's Show at Birmingham (two days). Lincolnshire Daffodil Society's Show.

April 23.—Royal Horticultural Society's Examination in Cottage and Allotment Gardening. North of England Horticultural Society's Spring Show at Leeds.

April 24.—Norwich Spring Flower Show.

April 26.—Ghent Quinquennial Exhibition (nine days).

DAFFODIL NOTES.

SOME OF THE RECENT GEMS AT VINCENT SQUARE.

Before I carry out my promise of last week, a word or two of explanation is necessary. Top-of-the-tree varieties, such as Crœsus and Bernardino, are too well known to need a description here. I have only one card trick. I get a bystander to draw a card, and after he has looked at it I ask him to put it back anywhere in the pack, which I give him for the purpose. I then take it back, and having given the cards a real good shuffle, say: "You are quite sure you know the card?" "Yes." "Quite certain?" "Yes." "Oh! then there is no need for me to tell you." There is no need for me to describe flowers already familiar to my readers. So will they please note these twenty are not the very best of all that were there. These best-known ones and the brand-new unnamed seedlings, with two exceptions, are on this occasion passed by on the other side. Here, then, is my list, alphabetically arranged, and with the exhibitors' names in parentheses directly after the name of the flower.

Ambell (Watts). — A pretty, almost white Ajax. The perianth is of the double triangle type, with overlapping segments, and of a greenish white colour. The trumpet is primrose. Size, 3⅞ inches by 1½ inches by 1½ inches.

Anette (R Sydenham, Limited).—A "Crosfield" Giant Leedsii. No Crosfield flowers are anything but very good—none, at any rate, that the public ever see. He is a very "Spartan" among his seedlings. The perianth is flat and overlapping, and the cup primrose, well formed and prettily frilled. Size, 3½ inches by 1⅛ inches by 1¼ inches.

Bloodstone (Barr).—About the nicest flower on the stand. The cup has a very distinct angular appearance, and the orange red edge looks as if it was the top of a ruffle. The perianth is white, slightly ribbed and rather undulating.

Bride of Lammermoor (Barr).—A distinct white trumpet, with a perianth shaped like that of Sir Francis Drake. Its weak spot from a show point is the top of the trumpet, which has an ungainly look. It is, however, a striking flower, and one that many people will like.

Fire King (R. H. Bath).—An improved Lucifer. The red in the cup is of a deeper shade, and the perianth not so floppy. Mr. Leak tells me that the sun only intensifies the colour, and before it is over it looks as if you would burn your fingers if you touched it. This is just what we all want.

Gold Coin (R. Sydenham).—A taking and very distinct bloom, a five-pound piece running away, with broad white streamers all round it. Size of diameter of reflexed perianth, 2¾ inches; of the eye, 1⅜ inches.

Impressario (Chapman), but Chapman's no longer, as it was bought by that most exacting critic "P. D." It is a soft Nelson yellow trumpet, with a smooth, overlapping and very slightly-hooded perianth. The trumpet has a *very* refined look, and is broadly flanged at the apex. Size, 4 inches by 1⅝ inches by 1¾ inches. A beautiful show bloom.

John o' Gaunt (Cartwright and Goodwin).—A magnificent large yellow trumpet raised by Mr. Chapman. Mr. Engleheart told me he had tried to buy it; but, like Pierpont Morgan with Hardy's manuscript, he had failed. Later in the afternoon I met Mr. Tom Page of Hampton looking very pleased with himself and wearing a fine bloom of Carnation Mary Allwood in his button-hole. I soon found out why—*he* was the purchaser. His market instincts led him to single out this particular variety as something in his line which he was prepared to pay for. It is a flower of the star-shaped type, with broad, overlapping perianth segments, with a slight twist in the three alternate ones. Size, 5¼ inches by 1¾ inches by 2 inches. Very fine indeed.

Lissadell 238—9 (Lissadell).—A beautiful pale canary triandrus seedling with quite an incomparabilis look, so much so that those unfamiliar with Daffodils might easily have thought it some relation to Homespun. Size, 3¾ inches by seven-eighths of an inch by ⅞ inch. It was one of the most distinct flowers in the show, and so delicate and refined.

March White (R. H. Bath).—A very early-flowering, almost white Ajax of moderate size. Perianth segments slightly twisted, trumpet pale primrose. The plant is vigorous and free-flowering, and the flowers are borne on long stems. It has the makings of a very fine pot variety; but that will not be yet awhile, as the price is about four to five pounds.

Paulhan (Chapman).—A delightfully clean and pretty-looking Barri with a pure white perianth and a cup of clear lemon edged with an orange red. It first showed its face, as the old flower books would say, when the celebrated aviator was trying to beat the London and North Western express from London to Manchester; hence its name. Diameter of the whole, 3 inches; of the eye, three-quarters of an inch.

Pixie (Wilson).—A show flower in every sense of the word. Smooth and refined; large, spreading eye, with a red edge graduating in shade to the yellow centre. Perianth ivory white and much overlapping.

Pluckley (Warren).—A refined yellow trumpet. One of the Westbere seedlings, and having the good texture and substance of that celebrated strain. Size, 4 inches by 1⅝ inches by 1½ inches.

Queen of the North (Barr).—An improved and enlarged White Lady. Bound to be a popular flower.

Red Lady (Bourne).—If one put an Almira perianth on to a Firebrand cup, slightly enlarged, one would have something like Red Lady. I fancy it wants good cultivation, but, given that, it is a charming thing. Size, 3¼ inches by seven-eighths of an inch.

Sarabande (Bath).—A Chapman Poet with a medium-sized red eye and a striking Poetarum-looking perianth. A good-sized flower. Size, 3¾ inches by three-quarters of an inch.

Sardius (Wilson).—A fine bit of colour. The deeply-edged eye at once arrests attention, and in combination with the slightly-reflexed and long-segmented perianth gives us a most pleasing bloom. Size, 3¼ inches by 1⅛ inches.

White Emperor (Bourne and Cartwright and Goodwin).—A dividing (see last week's notes) and a divided (in ownership) flower. If it had only been named White *Empress* I would have called it divine. Size, 4⅛ inches by 1⅜ inches by 1½ inches. Undoubtedly an exhibition flower of a very high quality; but it does not seem to me to be either fish, flesh, fowl, or good red herring. It has too much of a Leedsii look if one thinks of it as a

trumpet, and too much of a trumpet look it one thinks of it as a Giant Leedsii.

White Pennant (Bath).—The greatest novelty in the Hall. A Giant Leedsii of exquisite substance and with long, Almond-shaped perianth segments very slightly incurving. The cup is well formed, of pale primrose colour, with a decidedly deeper shade on its broadly-flanged edge. Here is a proportion sum worked out: As The Doctor is to The Earl, or, say, Frank Miles to Autocrat, so is White Pennant to Empire.

Wilson's 500 (Wilson).—A "cool customer." It has a very green-looking centre, with the narrowest of red edges and a slightly undulating white perianth. Size, 3⅛ inches by five-eighths of an inch. It might be said by some to be a little lacking in colour, as the red is not very pronounced. To me, however, it appealed very much. Joseph Jacob.

PLANTING A PAVED GARDEN.

I find the best tool to use in planting a stone pathway in a rock garden is a small wooden dibble and the handle of an old tooth brush, as the spaces do not permit of the more orthodox instrument. On that portion of the path which receives the most wear I find Arenaria balearica is invaluable, running like a green film in the V-shaped grooves between the stones, and spreading on to the upper surface of the pavement whenever the tread permits of it. Other good plants are Arenaria cæspitosa, Cotula squalida and acænafolia, Epilobium nummularifolium, Linaria equitriloba, Thymus Serpyllum and, last but not least, that charming little close-growing Mint, Mentha Requienii, from Corsica.

In the bays formed by a projecting rockery, where the tread is slight, Linaria alpina, Campanula pusilla and C. pusilla alba scramble about very prettily, while, where it can partly rise up against the face of an upright rockery stone, Antennaria tomentosa and A. dioica variety rosea make a silvery patch. If the path is sufficiently wide, and not too frequently walked over, many other plants may be introduced, such as many of the medium-sized Campanulas, like C. pulla, C. pulloides, G. F. Wilson, Stansfieldii and even carpatica, also Sedums, such as S. reflexum, S. rupestris and S. pulchellum, where they will not be caught by the foot. It is best, however, to start with the fairly rapid and dwarf growing plants, and considerable attention should be given in the early days to replacing any pieces which may get disturbed either by the foot or by some inquisitive sparrow, since in such a position the plants have not the same opportunity of undisturbed extension which they get in a sheltered bed in the rock garden. Reginald A. Malby

THE GREENHOUSE.

THE PERPETUAL-FLOWERING CARNATION IN SCOTLAND.

The production of plants of Perpetual-flowering Carnations is pursued on different lines in Scotland to those in the South of England, though the flowering treatment is identical, or practically so. Individual methods, no doubt, vary; but unless some of the chief practical points are similar, success may be diminished even to the vanishing-point. Like others, I have had to feel my way and adapt methods to means and circumstances.

THE NEW PERPETUAL-FLOWERING MALMAISON CARNATION MRS. WILFRED GOTT.

I bloomed a portion of the stock very well last winter along with Chrysanthemums, and when the structure was required for Arums, the Carnations were transferred to a cool Peach-house, where they have continued eminently healthy, but have yielded fewer good blooms. I think, on the whole, that a structure devoted solely to the plants will always give the greatest satisfaction. In the little span-roofed house set apart for them here, the heating pipes have been kept slightly warm all the winter up to the end of March. It has never raised the temperature, which was seldom higher than 50°, and frequently as low as 45°; but the slight heat seems to be beneficial in the way of opening the blooms, and no doubt it allows for ventilation in cold weather being given without any ill effects.

But of even more importance than a proper structure in which to flower the plants is one in which to grow them during the summer months. I have been very fortunate in having a low pit originally erected for border Carnations, &c., the sides of which can be opened wholly by means of wooden shutters, which, when closed, form the sides. A portion of this has been fitted with top ventilators, so that the plants in the hottest weather may be as cool as if they were in the open, where, it may be explained, they will not succeed so far North. Throughout it is imperative that they be grown all along under glass. I am sure that quite a number of cultivators fail during the summer through lack of facilities to give the plants the treatment they demand—protection from the weather and unlimited ventilation.

Propagation.—About the propagation of Carnations there is much diversity of opinion, and this surely demonstrates the adaptability of the plant when it is found to propagate so easily in so many diverse ways and at various dates. I have found the cuttings to root equally satisfactorily dibbled into sand in boxes, in the sand bed of a propagating-pit, and in small pots. In pots there is the advantage of being able to remove those which are first rooted without disturbing those not so forward, or, what is worse, to leave the first rooted till the others are ready, which weakens the former, for it is clear that until roots are produced, top growth is at a standstill; but once roots are formed it becomes active, and is one of the evidences of root production. I like to take the cuttings early in October. It is said that there is no advantage in striking the cuttings so early, but I cannot escape noticing that those who delay operations for two months or more fail to get as many breaks as do those who propagate early. Nor do I care to have the plants stopped too soon. Apparently time should be gained by early stopping, but unless the plant is very strong and well established, the breaks will be as four to six or eight on an average of the strong plants. Then the impression that it is essential to break off cuttings with a heel is not borne out in practice. A healthy and stout cutting roots just as freely when cut off as if pulled off, and the former has the advantage of producing a sturdier plant with strong shoots from the very base. I have plants growing from pieces cut off the base of the cuttings which were inserted with only two leaves; but these need not be used unless to get up a stock of a particular variety, as, of course, they never make large plants. Stopping, it may be added, cannot be safely done after the beginning of June.

The Best-Sized Pots.—I am sure that it is a mistake to limit the pots to 6-inch ones. Continuity of bloom requires a pot of 7 inches or 8 inches diameter, though in the case of weakly-growing sorts the smaller size may be admissible. Those who can command a strong loam ought to be grateful, because in a rooting medium of this kind blooms of the finest quality can be produced; but those whose soil is of a light nature need not despair. The blooms at their best will not be so fine, and it will be necessary to feed the plants from an early stage of growth either with such a manure as Bentley's Carnation Manure or with soot-water, which is excellent. Under suitable conditions disease will be a negligible quantity, and of the insect tribe the only member that ever attempts to colonise is the aphis. I have heard of thrips and red spider affecting plants, but so far North the conditions do not seem to suit them. To sterilise a small quantity of soil, Wulfing's Formalin is excellent. It should be applied at least a week previous to the soil being required. To conclude, do not expect fine blooms from weakly shoots; but remove these, however heartrending the process may prove, and those left will feel all the better for their absence. R. P. Brotherston.

A NEW PERPETUAL-FLOWERING MALMAISON CARNATION.

The new Carnation Mrs. Wilfred Gott, which recently gained an award of merit from the Royal Horticultural Society, combines the good qualities of the Perpetual-flowering and the Malmaison Carnations. The handsome pure white flowers possess a powerful Clove-like fragrance. The broad grey recurving foliage and the large globose flower-buds closely resemble those of the true Malmaison, but the plants showed the exceptional vigour and freedom that is characteristic of the Perpetual-flowering varieties.

ROCK AND WATER GARDEN.

A PRIMROSE FOR THE WATER-SIDE.

(Primula rosea.)

THIS beautiful Himalayan Primrose, which gladdens us with its umbels of intensely rich carmine flowers during March, is an indispensable waterside plant, in addition to making itself almost equally at home in rather drier situations, provided vegetable soil enters largely into the composition of its rooting medium. During the winter months it forms deep bronzy red, resting buds, which at the first call of spring open and expose the cluster of blossoms neatly packed in their centres. Given reasonable weather conditions, these buds develop with surprising rapidity, and while the blossoms frequently open when but 1 inch or 2 inches above the ground, the flower-stem finally reaches a height of 6 inches or 8 inches, and sometimes more. Even here in the smoke-laden air of Woodford this Primula appears to be of the easiest culture, while it comes so readily from seed that no gardener should be without it. When the crowns become numerous, it is advisable to break them up, replanting some few inches apart. Not infrequently the resting buds have a tendency to rise out of the soil, and this should be counteracted by either gently pressing them back into the ground or —perhaps the better way — placing some top-dressing about them. Reginald A. Malby.

THE NYMPHÆAS OR HARDY WATER LILIES.

(*Continued from page 182*).

Methods of Planting.—Various methods of planting can be adopted, but the system I have practised from the very first I have found to answer well. To begin at the beginning, in our case here, I would state that the first order that was given was for a dozen varieties. That would be about eighteen years ago. The cost of all of these did not amount to £3; but I should state that the plants were all small, though well rooted and healthy. When unpacked on arrival from M. B. Latour-Marliac I placed them securely in shallow Strawberry punnets. These held them quite comfortably, each plant being tied in to prevent its escape by any movement of the soil. These, with the exception of N. flava, all throve well the first season and survived the following winter, which was a very severe one. The plant of N. flava, however, succumbed during that trying winter. As I did not then feel assured of their hardihood, I covered the ice, soon after it formed, with some straw litter, to prevent, if possible, a thick coating over the Lilies. I followed this system of protection for a few seasons afterwards. Finding, or at least deeming, it not to be essential, I ceased to cover them, and have never done so since. These little plants of the first season grew so well, and a few flowers were the result in the second year from planting. At two years from their receipt I lifted them carefully. The punnets were, as a matter of course, decayed, but the roots all lifted well. I then transferred the plants to small, but old, nursery rounds of about two feet in diameter. The soil I used then—and I have found nothing to answer better—was, first, a layer of decayed leaves over the bottom of the basket, then some broken-up turfy loam and road scrapings. Into this soil the plants were firmly placed, being again tied down to prevent floating. That season the eleven plants grew surprisingly well, and flowered quite freely for their size.

Dividing the Plants.—In about three years afterwards I found it necessary to divide the stronger-growing varieties. These were N. Marliacea albida, N. M. chromatella, N. M. rosea and N. M. carnea, all of which are well known as vigorous growers, even under adverse circumstances. I then used larger nursery rounds of from 3 feet to 4 feet in diameter. It was somewhat of a difficulty to lift the plants that time, so well had they rooted into the muddy bottom of the lake. They were slid back into the water; then, by means of a cord, the baskets were pulled into greater depth from the other side. Divisions of these and other strong-growing varieties have taken place since. One has to be careful, I find, about the division of the weaker growers. This has to be done with more care and not so frequently. I divided our plants of N. odorata rosacea and others of this section, and they never throve well afterwards, I am sorry to say. The root growths of these are much smaller and not nearly so succulent or sappy, being somewhat hard in texture. They make much smaller roots in comparison also. The N. Laydekeri section appear to be somewhat intermediate in growth, but they grow freely, all the same, and flower most profusely, but, like the N. odorata section, do not need to be disturbed so frequently.

Never on any account should tubs be used. This is an utter mistake, for the soil in them becomes stagnant and sour beyond any hope of improvement. I have heard of Teak tubs being used for

AN EFFECTIVE GROUPING OF PRIMULA ROSEA, A CHARMING SPECIES FOR THE ROCK GARDEN OR WATER-SIDE.

the purpose, but it is an expenditure that cannot be in any sense justified. Wire baskets are not so bad as tubs, because aeration of the water and the soil can then take place within them. But wire baskets will contract, or limit, the growth of the rhizomes, and this is to be regretted. Loose bricks are better than wire baskets, as these can be removed and extended. Of all the systems, however, I much prefer nursery rounds without any handles to them. In small and easily accessible fountains, or basins of water, I consider nothing to equal bricks of the usual size; these should be built up lightly and loosely, so as to hold the soil. About three courses of these are sufficient for all but the strongest growers, and these only need four courses at the most. So-called "pockets," or hollow spaces provided in rockwork, at times are bad places for Water Lilies, as the soil cannot be readily renewed in them.

Season of Planting and Seedlings.—After several years' experience now, I find no time to equal the spring. From the last week in April to the third week in May I consider to be the best time to both plant and divide the rhizomes. The water then is more perceptibly rising in temperature week by week, and this will be congenial to quicker root development. Later planting may be safely practised, but such does not give the plants the same opportunity of re-establishing themselves before the autumn sets in. I should never attempt to plant or divide after August draws to a close. If by any chance seedlings are noted during the summer months, it is better to mark these and leave them until the following spring before in any way attempting removal. If during the month of August or early September any seed should be seen floating upon the surface of the water, it may be secured and at once sown in mud, then raised in a temperate house. After the bursting of the seed-pods the seeds only float twenty-four hours, then sink to the bottom.

James Hudson, V.M.H.

Gunnersbury House Gardens, Acton.

(To be continued.)

POLYANTHUSES AS STREAMSIDE FLOWERS AT CLANDON PARK.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Tomatoes for Outdoors.—In these days we expect to see Tomatoes growing splendidly in the garden of the cottage as well as in the ornate establishment attached to a nobleman's home. It is, in a sense, extraordinary how popular they have become, because they are not the easiest of plants to manage, and when outdoor culture is the only method possible, disappointment is apt to come, despite all efforts to guard against or prevent it. To ensure success the season must be a sunny one, but the grower should always endeavour to produce such excellent plants that the utmost advantage will be secured of the good weather that comes along. To this end the plants now in 2½-inch pots should be transferred to those 4½ inches in diameter when the present pots are full of roots, while those in boxes must go into 3-inch pots preparatory to passing to the larger size just mentioned. Always use a compost of loam, leaf-mould and sand, and if there are wood-ashes at command, add some.

Maincrop Carrots.—These ought to be sown this month, and those who labour on an unkind soil and desire to produce the 3-feet, perfectly straight, even roots which gladden the eye at shows must bore for them. Make holes 3 feet or more in depth, according to the variety, fill with light, open compost, sow three seeds in the top, and thin to one plant in due course. Most of us, however, do not aspire to such heights as this, but are contented with medium-sized roots of fine quality. We therefore prepare a quarter that was well manured for the previous crop by deep digging, and every effort is made to ensure friability. Then drills are drawn 1 foot asunder, and at intervals of from 4 inches to 8 inches groups of three seeds are dropped, to be reduced to one plant when it can easily be seen which is the best.

Beetroots.—This is one of the tender salad vegetables which are best sown in bulk in May, but it is so welcome on the table that no cultivator hesitates to accept the slight risk involved in sowing after the middle of this month. Choose a variety like Sutton's Crimson Globe, drop seeds in groups of three at intervals of 10 inches, and thin out, always reserving the weakest plant, provided it is healthy, as it will produce the most refined root.

Scarlet Runners.—The season when this plant becomes most useful is very late in the summer and autumn, when the Green Peas have either gone for the year or are scarce, and sowing in May meets the demand. It is, however, almost invariably necessary to have pods ready for picking much earlier in case they are wanted, and seeds should therefore be sown under glass at once to provide early plants. Do not attempt to rush them in a high temperature, as this spells weakness and involves trouble when they have to be planted, but grow sturdily and strongly to secure hardy plants. No matter how carefully they have been managed, they must have a process of hardening prior to planting in deep, rich soil in the position chosen. Sow out of doors twice, or even thrice, between the first week and the end of May.

Dwarf French Beans.—Amateurs and cottagers commonly fail with these delicious Beans for two reasons. One, they will sow too early; and two, they will grow too thickly. The plant is exceedingly tender, and must not be sown until May, or the youngsters will be yellowed, and it is quite possible they will never recover. Then they are of strong, branching habit, and should always be 15 inches, and better 18 inches, asunder in rows 3 feet apart if they are to develop their full capacity for fruiting.

H. J.

FLOWER GARDEN.

PRIMROSES AND POLYANTHUSES.

There is no need to extol the merits of these beautiful spring flowers, though it may be helpful to point out which are the more beautiful ways of employing them. They are good in any garden use, but best of all where they may have a place to themselves, as in some quiet space of woodland, such as is the natural home of the wild Primrose. This is especially the case with the large yellow and white Bunch Primroses, which, in such a place, can be used in bold massings. The finest effect is obtained where the woodland adjoins the garden and the Primrose place is reached through a planting of dark-leaved shrubs, such as Box, Yew and Portugal Laurel; and the path, a little winding, suddenly discloses the garden of Primroses, with an effect that is little short of astonishing.

These fine things are not at their best till the third week of April, or, in late seasons, till the earlier days of May, when their effect is all the better for the near trees being in thin, early leaf. The coloured Primroses are better fitted for general garden use, and are all the more valuable if carefully sorted for tints that harmonise together, thus forming a number of separate groups.

Within the last fifty years we have come to look upon the dear, homely Primrose as a national emblem of deep significance to a now immense band of patriotic people, and in memory (for it was his chosen flower) of the statesman who conceived the idea and raised the structure of Empire for Britain. It stands to us as the sign of the constant labour and the united effort, all over the land, of those who hold to the best traditions and the noblest interests of our home country and its closely-linked Overseas Dominions. Among those who from the beginning have given untiring labour to the truly national and patriotic work of the Primrose League, it is only fitting to name, in all reverence and honour, the late Lady Dorothy Nevill; and all the more fitting in these pages because of her whole-hearted sympathy with all the best interests and developments of horticulture. Greatly as Lady Dorothy is regretted among her immense circle of friends, her gracious and cheery presence had become one of the bright features of the fortnightly meetings of the Royal Horticultural Society, from which it can be ill-spared and will be sorely missed. G. J.

SOME GOOD TULIP SPECIES.

Nowadays, when countless seedling Tulips have been raised — early-flowering, medium and late—it must be admitted that the brilliant self colours and mixed hues in almost endless diversity are most effective in beds and borders, while a great advance has been made in the past decade in the Cottage and Darwin sections. Showy, however, as are many of these named varieties, the true species are at least as fascinating, and the flower-loving amateur who once takes up the culture of the latter is not likely to regret his enterprise. The following are handsome species, well worthy of extended cultivation, and have flowered well for the past few years:

Tulipa clusiana. — This was described and illustrated on page 171, April 5 issue, and need not again be referred to in detail.

T. kaufmanniana holds a foremost position among the many rare and beautiful species of Tulip. It is certainly one of the handsomest of the early-flowering species. Its broad petals reflex considerably, and the flowers often attain a diameter of 5 inches. In colour the blossom is creamy white, while the base is golden orange, this being sometimes barred with carmine-red. The buds are tinted externally with crimson. It grows to a height of about a foot, and is a very early bloomer, this year flowering in February. It is a native of Central Asia, and was introduced in 1877. The open flowers have been likened to those of a Water Lily. In its variety aurea the ground colour is golden yellow.

T. Batalinii.—This is a beautiful dwarf species from Asia Minor, and is an excellent plant for a choice nook in the rock garden. It has long, tapering leaves, and the flowers, the petals of which are pointed, are of a beautiful soft pale yellow, and are deliciously fragrant. Its blooms are about three inches long, and the plants flower in March and April. It is one of the daintiest of Tulips.

A BEAUTIFUL GROUP OF THE WATER-LILY TULIP (TULIPA KAUFMANNIANA).

T. tubergeniana.—This was found on the high mountains of Central Bokhara about ten years ago; it is without doubt one of the finest Tulips yet introduced, and has flowered splendidly. Its immense cup-shaped blossoms are of intense scarlet, and often measure as much as 6 inches across. At the base of the petals there is a black blotch. The flower-stem is erect and tall, and the glaucous leaves are of great size. It is very robust, perfectly hardy and does well in English gardens.

T. saxatilis.—This, a native of Crete, is a charming Tulip, and the earliest of its race to bloom, the plants often opening early in February. The blossoms are faint rose in colour, with a base of deep golden yellow in the interior. The flower-stems are about eight inches in height, and the blooms are about three inches long. One drawback to it is that it is sometimes a shy flowerer.

T. gesneriana is the best known of the Tulip species, and is largely grown in gardens. It is very hardy and does not require annual lifting, as do most of the species, but succeeds well if left in the ground year after year. Its form major is a very fine flower of large size, and a bed of this in full bloom is a gorgeous sight. The colour of the blossoms is a glowing crimson.

T. flava is a noble Tulip and one of the latest to flower. It often attains a height of close upon 3 feet, and has stout stems and leaves. The blossoms are about five inches in length, with pointed, slightly reflexing petals of a clear yellow colour. It is one of the finest of the Tulip species, very strong and free in growth, and of the easiest possible culture. Towering above its fellows, with the sun shining on its bright flowers, it presents a lovely picture.

T. Greigii. — This is a native of Turkestan, and is one of the most gorgeous of all Tulips. Its large, goblet-shaped flowers are brilliant scarlet, and there is no Tulip that can excel it in vivid colouring. Its broad, glaucous leaves are irregularly striped and spotted with purple, which gives it a distinct character. In a garden when twenty or more blossoms are expanded simultaneously the effect is superb.

T. celsiana, also known as T. australis, is a native of Persia. The flowers, which are yellow, tinged with red on the outside, droop before they expand. The plants bloom in May, and frequent meadows in the chalky mountains at an elevation of nearly seven thousand feet. The species is, apparently, closely allied to T. sylvestris.

T. elegans is a very handsome Tulip. The growth is strong and the flower of the richest crimson, while it is even larger than the showy T. Greigii. The petals of the flower narrow to a point. It is supposed to be a natural hybrid between T. acuminata and T. suaveolens, but, if so, is decidedly superior to either parent. In the variety alba the petals are white, with a narrow margin of crimson.

T. ixioides.—This is held to be a form of T. gesneriana. Its blossoms are of a soft canary yellow, and in the interior is a deep black base, which is very effective and renders the flower distinct from others of its class with yellow blooms. It grows to a height of about two feet.

T. kolpakowskiana.—This is a native of Turkestan and a very handsome species, flowering in April and May. It is one of the most variable in colouring, hardly two bulbs producing blossoms of the same tint. The flowers are often yellow flushed with scarlet, some are pure scarlet, and the charming blending of hues in a large group is very attractive. The plant has lanceolate leaves from 5 inches to 1 foot in length, and the flower-buds are pointed.

T. linifolia is a very pretty Tulip, with narrow leaves and flowers of an intensely dazzling scarlet, which are furnished with pointed petals. The flowers are very lovely and second to none in brilliance.

T. strangulata maculata has soft primrose yellow flowers with a conspicuous black centre. There are two other forms of T. strangulata, namely, primulina, a self primrose yellow without the black blotch, and picta, primrose yellow, shaded with rose on the outside of the petals.

T. ostrowskiana, a native of Turkestan, is a graceful plant attaining a height of 18 inches. The leaves are narrow, and the flowers, which are each about five inches in diameter, are of a brilliant scarlet.

Wyndham Fitzherbert.

THE EARLY-FLOWERING TULIPA SAXATILIS, NATIVE OF CRETE.

FRUIT GARDEN.

METHODS OF COMBATING WOUND FUNGI ON FRUIT TREES.

In a previous article (page 100, issue February 22) reference was made to the alarming increase in the prevalence and virulence of the attacks of wound fungi on fruit trees, and the necessity of protecting all the wounds which can possibly be protected was insisted upon. In this article it is proposed to treat with another aspect of the subject, viz., the possibility of feeding the trees so as to render the sap in leaf and in the wood toxic to the fungi. One of the first facts that strikes a thinking person when considering the question of fungous growths on all sorts of vegetation is that, broadly speaking, each fungus confines its attacks to the one particular host plant. When one considers the enormous quantity of fungus spores produced, this becomes all the more marvellous, since it is absolutely certain that many spores fall on quite different races to that to which the particular host plant belongs. It must necessarily follow that there is some resistant quality in the sap of these different races of plants which prevents the fungus spore from growing to any degree, and, on the other hand, there must be some affinity between the fungus and its particular host plant. There is not only this phenomenon, but another, even more strange, which can be often observed. In a set of plants, one more sturdy and vigorous than the rest, but not necessarily coarse and overgrown, will be found to be quite free from disease, while all the rest may be attacked. Again, it is quite clear that thousands of spores must fall upon this plant from its affected neighbours, and the natural inference is that there is something in the sap of such a plant which is inimical to the growth of the fungus spores.

Such phenomena as these suggest a possible method of dealing with fungous attacks, which has certainly some element of hopefulness in it. Unfortunately, very little is at present known concerning the substances which can be introduced into the sap of plants which will not be harmful to them, and in addition will be toxic to fungi.

One or two facts closely related to the manuring of plants are, however, pretty well established. In the first place, a very luxuriant growth caused by heavy dressings of nitrogenous manures unbalanced by phosphates and potash almost invariably falls a prey to any fungus disease to which its race is subject. For example, the worst attack of Cladosporium fulvum (the Tomato rust) to be found in the greenhouse is generally on the plants most highly fed with nitrogenous manures; and, again, fruit-growers are finding to their bitter cost that the dreaded American Gooseberry mildew is invariably worse where the manure has been most liberally supplied. On the other hand, to take only the case of the Tomatoes, plants supplied with a sufficiency of potash are noticeably much more free from disease.

Unfortunately, at present it has not been found that potash has much beneficial effect in checking disease in fruit trees. It has been tried for the silver-leaf disease, which attacks Plums and Apples, with little or no result. Some experimenters, however, claim to have succeeded by the use of superphosphate. The writer has not himself seen these experiments, but he has it on very good authority, and the results are described as very good indeed, plantations being quite cleared of this nasty disease. It is believed that the best time to sow the superphosphate is in the late summer or early autumn, August or September, before the leaves fall from the trees, and the quantity required would not exceed 5cwt. per acre; but the best quality, giving the highest percentage of soluble phosphates, should be used.

Several additional experiments are now in progress to endeavour to prove the truth or otherwise of the conclusions previously arrived at; but the results cannot be ascertained till the foliage of the trees comes out this springtime and summer, when it is hoped definite information will be secured whether this treatment really effects a cure for silver-leaf. Another substance which has been tested for silver-leaf, but which has up to the present given very varying results, is sulphate of iron. It is to be supposed that the first experimenters, knowing that it had a good fungicidal action, endeavoured to get it taken up in the sap of the trees for the purpose of dealing with the fungus, whose mycelium is in the inside of the tree, in the wood and bast cells. For this purpose the well-known practice, so often advised for combating silver-leaf, of boring into the main stem of the tree and inserting finely-ground sulphate of iron, was proposed. As stated above, however, the results obtained have been very diverse, some experimenters claiming to have quite cured the affected trees, while others could see no good results following the process. It is extremely important that careful experiments should be made to endeavour to discover a method by means of which the active fungicidal properties of the sulphate could be rendered assimilable by the tree sap, and so be conveyed all over the tree to act as an active agent in checking the germination of any chance spores which may fall upon leaf or branch, and also to resist the advances and growth of any disease which may be present.

Another method of using the sulphate of iron for combating the various fungoid diseases is to sow it round the base of the trees, forking it into the soil, the idea being to get it taken up into the tree by the medium of the roots when in solution in the soil water. As before, this method seems to have met in some cases with but scant success, while in others it seems to have accomplished a great improvement in the trees affected. At present the superphosphate manuring seems to be the most successful method, as well as the simplest, in dealing with these wound diseases, and it is in this direction we turn most hopefully in our battle with these insidious foes.

F. W. Hammond.

GARDENING FOR BEGINNERS.

THE CULTIVATION OF ANNUAL POPPIES.

As each April comes round, my thoughts turn unerringly to the summer show of Shirley Poppies that brighten the garden in delightful art shades of colour. Surely no flowers could be more easily grown—a handful of seed scattered over a prepared plot of ground, and very little attention is required. There are just one or two salient points, however, to bear in mind. Seedling Poppies never transplant well, and in consequence the seed should be sown in the places where the plants are to flower. It is a common mistake to sow the seeds as thickly as Mustard and Cress, with the result that the plants are weak and spindly and the flowers of poor quality. To sow thinly and to thin early are both of the utmost importance, and it is a good plan to mix the fine seed with sand, and then to sow both sand and seed together. By this means an even distribution of seed will be ensured. Before sowing, the seed-bed should be well prepared. The soil should be forked over and the surface left fairly firm and even after being raked over. The seedlings should eventually be thinned out to 6 inches or 8 inches apart, so that side shoots may develop and carry flowers.

Not only are Shirley Poppies so valuable for colour effect in the garden, but they are welcome as cut flowers for table decoration. When used for this purpose, however, the flowers should be cut in the bud state and allowed to open indoors, when they are found to last much longer than if cut when fully expanded. Flower-buds cut in the evening and placed in water indoors will be found wide open the next morning, to the astonishment of those who are unaware of this quality.

The Shirley Poppy is an admirable subject for the sunny garden and for semi-wild places or open woodland, such as that depicted in the accompanying illustration. The same may be said of Papaver Rhæas, the common Corn Poppy, of which the Shirley Poppy is but one of its many cultivated forms. The Opium Poppy, Papaver somniferum, and its varieties require the same treatment as that advised for the Shirley Poppies.

Spartan.

SHIRLEY POPPIES IN AN OPEN WOODLAND SPACE.

THREE BEAUTIFUL ANNUALS.

The three beautiful half-hardy annuals, Phlox Drummondii, Browallia elata and the double-flowered Zinnia, are very effective in the flower garden when the plants are well grown.

Phlox Drummondii has many charming colours. During the past ten years the improvement in the strains has been most marked. The plants in these days are more compact in habit and may be used entirely for filling flower-borders. They soon grow to the flowering stage, and continue to bear blossoms until the end of October, or when frost comes in November. A good compost must be used in which to raise the seedlings, and when the latter are large enough to handle, prick them out 3 inches apart in a light compost in boxes, and still retain them in a warm frame. From the boxes transplant them in a cool frame or one temporarily constructed. If the young plants are grown under cool conditions during April and the early part of May, they will be in fine condition for the flower garden at the end of May. The following colours may be obtained: Pink, carmine, rose, scarlet, white, marbled, rose with white eye; purple, white eye; white, dark eye; scarlet, white eye; and blue, white eye.

Browallia elata.—This is an exceedingly beautiful annual, and should be grown in all flower gardens. The plants are generally grown and flowered in a greenhouse, but will do equally well in the flower garden if planted there the first week in June. The plants attain a height of about eighteen inches, and bear white, blue and violet blue flowers respectively. Sow the seeds thinly in boxes or pans, and place the latter in a warm frame or on a greenhouse shelf. Transplant the resultant seedlings in boxes at a distance of 2 inches apart, and still retain them under glass. It is very important that the seedlings be nursed in a genial atmosphere during their early stages, and when taken from the greenhouse they should have the shelter of a frame until the early part of May. By building up fine bushy plants in this way and carefully hardening them during the fortnight or so prior to planting in the flower-beds they will soon become established and fill the beds, flowering freely. Small, puny specimens are rarely satisfactory.

Zinnias.—Unless the single-flowered varieties find special favour, I strongly recommend cultivators to grow the double-flowered. The latter, when well grown, are really splendid for bedding-out purposes. Zinnia elegans grandiflora robusta plenissima is a charming variety. The foliage is so robust, a good point, as very often the foliage of Zinnias is sparse and the plants present a ragged appearance. Slugs are partial to these plants while in the seedling stage, and I have often found that where young plants have been attacked, they rarely recover normal conditions. Raise the seedlings in a temperature of about 60° and continue to grow them in a warm place, but guard them from slugs. The soil for the seedlings must be rich, but not containing any fresh organic manure. The manure must be rotted and passed through a half-inch mesh sieve, so that the particles will mix with the soil. In such a compost the roots will cling to the manure when the plants are put out finally. Prepare the flower-bed in a similar manner, and when the plants are growing freely in it give a few waterings of weak, clear soot-water; then both leaves and flowers will assume a richer colour. The plants grow about eighteen inches high. Sow the seeds without delay. There are about eight distinct colours, including Fire King, scarlet, and Queen Victoria, pure white, with flowers 4 inches or more across.

Avon.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

Pleasure Grounds.

Mowing.—With the warm weather the grass will be growing freely, and to keep it in good order a weekly mowing will be necessary. If left a fortnight the bottom will be found to be turning yellow, especially where the grass is very thick, and if a sharp frost occurs immediately after mowing, it will look bad for three or four weeks.

Sowing Grass Seed.—If necessary, bare patches may still be sown with seed; in fact, the seed germinates much quicker and better now than at any time, though it is wise to try to choose a time when the wind is not too drying.

Gravelling.—Any gravelling that has to be done should be proceeded with at once, breaking up the old gravel with picks or forks according to the nature of the surface, levelling this over nicely before proceeding to lay the new gravel. Too heavy a dressing is quite as bad as too little; in the latter case the rough stones soon show through the surface, while in the former case it is apt to be soft and spongy during wet weather. It seems unnecessary to add that it should be rolled well before being walked upon, following this up with a thoroughly good rolling in after the first heavy rain.

The Rose Garden.

The Beds.—Now that all the pruning is done, the beds should be carefully edged and the surface soil pricked over with a fork, making it as fine as possible in the operation—this to facilitate hoeing, which should be done regularly from now onwards.

Spraying.—Before the buds get too far advanced it is advisable to give all the plants a good spraying with paraffin emulsion, this acting as a preventive to both mildew and green fly. Some may prefer other insecticides or fungicides, but this does not matter, the point being to prevent rather than to cure these enemies, and by making an early start there is a much better chance of getting the upper hand.

Plants Under Glass.

Humea elegans.—This fine decorative plant is now throwing up its flower-head, and should be fed regularly with liquid manure. Artificials, if given, must be in very small quantities, or a loss of foliage may result; the roots, being very fine, are easily injured by an excess of water or manure. Seed should now be sown for next season's plants, using a shallow pan and fine soil for sowing, while an intermediate temperature will suit them best until such time as the seedlings are large enough to prick off.

Zonal Pelargoniums, rooted in February in 3-inch pots, should now be advanced enough for potting on into 4-inch or 4½-inch pots, adding a little bone-meal to the compost when potting. Pinch out the point of each plant when nicely rooted in the larger pots, and so induce a bushy habit of growth.

Caladiums, being nicely rooted, may be potted into the pots in which they are to remain during the summer, this being desirable before they become at all potbound. A very light mixture of fairly lumpy peat, leaf-soil, loam and sand, with a little charcoal added, suits them well. Plenty of heat is necessary if good large and well-coloured leaves are desired, and if the water is at all likely to discolour or form a sediment on the foliage, the plants should not be syringed overhead, but a good moist atmosphere must be maintained by spraying between the pots, while shading is necessary during bright sunshine.

Sweet Peas in Pots.—These will now be taking an almost unlimited supply of water during bright weather, and on no account must they be allowed to suffer. As soon as the first blooms commence to open, liquid and artificial manures may be given frequently, but these must be kept in abeyance till the buds are very forward, or they are apt to drop; also too high a temperature must be guarded against.

The Vegetable Garden.

Salsify.—This deep-rooting vegetable may now be sown, selecting a piece of ground that has been deeply dug or trenched. If sown in rows 18 inches apart, the plants may be thinned to about one foot apart, which will allow ample space for their development.

Scorzonera may also be sown and should be given similar treatment to that advised for Salsify.

Onions.—Autumn-sown Onions should now be large enough for their final thinning. If large specimens are desired, they should be left at least 1 foot apart, but for ordinary utility purposes 6 inches should be sufficient. Plants raised under glass should be gradually hardened off preparatory to planting out at an early date.

Fruits Under Glass.

Melons.—Continue to sow and plant Melons according to the requirements and convenience of the establishment, arranging the various batches to come in at a time when they are likely to be in most demand.

Hot-Beds.—In a recent calendar I advised the sowing of a batch of seeds for cultivating in frames, these to be planted early in May, so that no time should now be lost in preparing material and making up hot-beds to receive them. Such material should be turned and mixed once or twice before making up.

The Hardy Fruit Garden.

Strawberries.—After a good hoeing through, a commencement may be made to bed down the early varieties. By doing it thus early, long strawy litter may be used, and what manurial properties there may be in it will be washed into the soil, thus leaving it in a light, clean condition for protecting the fruits from dirt, &c. If left too late it is apt to cause the fruits to rot, and the use of clean straw is to be preferred.

Apricots.—These being the earliest to bloom in good warm positions, the trees may be ready for thinning the fruit—this when the weather conditions have been favourable to a heavy set of fruit. It is not wise to take off too many fruits at once, but when several are set in a clump it is certainly advisable to thin them to one or two, taking off others when in a more advanced state.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sowing Hardy Annuals.—Now is the time to sow hardy annuals in the open. The ground should be deeply dug, but only lightly manured, especially for the dwarfer sorts and for Poppies. A good tilth is also essential to success, and the common error of sowing too thickly should be avoided. Another frequent mistake is to bury the seeds too deeply, and when they fail to germinate the seedsman is blamed. Where there are masses of English and Spanish Irises, a good plan is to sow some of the easier-grown annuals, such as Poppies, Candytuffs, or Nigellas, among them for successional bloom.

Sowing Mignonette.—I believe in sowing Mignonette under glass, pricking it off into fibrous loam, and then planting it out about six inches apart; but where it is desired to sow it in the open, now is the time to do so, and I would venture to give three hints regarding its culture—manure pretty heavily, give a little lime, and coat the seeds with red lead as a protection from birds.

Weed-Killer.—Although somewhat expensive in the first instance, yet, all things considered, gravel can be kept clean more economically by weed-killer than by any other means. From now till the first week in May is the best time to apply it. It is best to do this after a moderate fall of rain. There are many kinds on the market, but we find Climax highly satisfactory.

The Rose Garden.

Suckers.—Except where Roses are on their own roots, a sharp look-out must be kept for suckers, as they soon rob the rightful owner of the ground. Cut them off just under the surface of the soil.

Rose Grubs.—Several varieties of sawfly attack Roses from time to time. Some of them can be eradicated by spraying with arsenate of lead; but there are two, Lyda inanita and Blennocampa pusilla, the larvæ of which ensconce themselves in the curled-up leaves and defy the efforts of the sprayer. Hand picking is the only cure for these, and a watch should be kept for them. When detected, the affected leaves should be promptly picked off and burnt.

The Wall Garden.

Transplanting.—Where young stock—either seedlings or rooted cuttings—are intended to fill up blanks or to take the place of present occupants, they should be planted forthwith, so as to get established before the conditions become rather dry. If possible, a stone should be removed where the plant is to be placed, and some good loam inserted in the aperture for the plant to feed on. When the planting is completed, the whole of the newly-planted stock should be thoroughly watered by means of the syringe.

Sowing Seed.—A good many of the plants suitable for wall gardens can be raised from seed sown in the future home of the plants. The seeds should be mixed with some fine soil, which should then be well moistened and pressed into the interstices which the future plants are to occupy. If dry weather sets in, give the soil an occasional spraying in the afternoons, at least till germination takes place.

Plants Under Glass.

Perpetual-Flowering Carnations.—The earliest batch of these will now be almost ready for their final shift. Seven-inch pots are generally suitable, but vigorous sorts like Britannia and Mrs. Burnett may require a size larger. These plants are by no means fastidious as to soil, but good fibrous yellow loam, with about a third part each of old Mushroom manure and Oak or Beech flaky leaf-mould, with a good dash of sand, will give good results, other points receiving due attention. Water carefully at all times, but especially after repotting.

Celosias.—A batch of these from a good strain of seed is a valuable asset. They require a brisk temperature and a fairly rich soil, and should have abundance of light.

Amaranthus tricolor.—This inexpensive annual makes an excellent conservatory plant. Seed sown in a little warmth now and grown on liberally will be found very useful in the early autumn. A. tricolor splendens is an improvement on the type.

Fruits Under Glass.

Strawberries.—Plants that have finished fruiting need not be thrown away. If they are hardened off and then planted out in well-prepared soil, they should give excellent results next season in the open air.

Watering Vines.—This work should receive close attention, especially where there is no outside border. Liquid manure should be applied once or twice during the season.

The Kitchen Garden.

Peas.—This is the leading summer crop, and it should receive much attention. Stake promptly with Beech, Elm, Hazel, or Spruce branches if available; if not, sheep netting may be employed. Where natural stakes are bare at the bottom, small twigs should be inserted to prevent the plants from bending over, after which they never do so well. Sow successions as the previous sowing appears above the ground.

Planting Parsley.—Where a batch was raised in heat, it should now be fit for planting out. The ground should have a dressing of soot forked into it prior to planting. Plant in rows about fifteen inches apart, and from 9 inches to 1 foot apart in the rows.

Turnips.—A good sowing may now be made on the open break, but I would still recommend Milan Early Purple or White, the latter for preference.

Planting Cabbages.—Those which were raised under glass early in spring will now be ready for planting out, and it will be well to use the trowel instead of the dibber in carrying out the operation. A little extra pains will have been taken with these, and they should lift with balls which cannot be got into a dibbled hole without cramping the roots.

Cauliflowers similarly raised may be treated in the same way, but should, in addition, have a ring of soot placed round them.

Cutting Asparagus.—Inexperienced hands are apt to work mischief in this operation by cutting the roots of the plants. If the hooked Asparagus-knife is used, the danger will be obviated.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS. *The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

INJURY TO DAFFODILS (*R. H. W.*).—Your Daffodils are attacked by eelworms, and we doubt whether a cure is possible, for the pests, which are inside the bulbs, cannot be reached without damaging the bulbs more than they are now. The soil is probably infested with the pests, and no doubt they have entered the bulbs from that source. A heavy dressing of kainit as soon as the bulbs are lifted would be a help towards getting the better of them, and an even greater help would be the growing of some other non-susceptible plants for two or three years on the ground the Daffodils now occupy before they are planted again.

ROMNEYA COULTERI FAILING (*Miss C. E. L.*). It is difficult to suggest a reason for your Romneya Coulteri failing to open its flowers. Possibly it is growing in a shady position, or it may have become dry at the roots when the buds were forming. It would be a good plan to examine the soil about the roots and see what condition it is in. If it looks as if it is likely to become dry, towards June arrange to give a copious watering occasionally. It is not necessary to give new soil or manure now, as you say that the plant is quite vigorous; but if you give water when the buds are forming, a little weak manure-water may be given with advantage. Do not allow the roots to be interfered with by other plants.

THE GREENHOUSE.

INJURY TO OLEANDER (*Colchester*).—We can find no fungus or insect on the Oleander to account for the trouble. The stem is dead and the bark brown, but the root seems to be perfectly healthy. Is it at all likely that the plant has been exposed to frost? It has that appearance. These plants will bear a degree or two without much harm, but little more.

SCHIZANTHUS (*G. R.*).—We can discover no cause to account for the peculiar tufted growth on the Schizanthus, and think it must be inherited; that is to say, the seed may have been saved from a plant showing that peculiarity. The young plants sent appear as if they will grow out of it. You do not say whether many of your plants are as bad as the large one sent. If they are like the small ones, we do not think they will give much trouble.

GERANIUMS AND VIOLETS FOR INSPECTION (*C. A.*).—There is no fungus present on the Geraniums sent. We are inclined to think the trouble is due to the temperature and moisture conditions not being suitable for them compared with the supply of light. The colour of the Violets is, no doubt, due to their having had very dull light during the time they have been developing, and they have probably become very damp, too, judging from their appearance. Is the drainage good?

HYACINTHS FAILING (*R. B.*).—The Hyacinths are very badly attacked by the bulb mite, and this has caused the destruction of the roots. It is important that bulbs should be planted in fresh soil and in clean pots, and examination of the bulbs for this minute pest should be made with care when bulbs are purchased. Many of the bulbs lately imported have been badly attacked by this pest. Unfortunately, no method of destroying it can be relied upon to do this completely, but fumigation with carbon bisulphide is the best thing.

DECORATIVE CHRYSANTHEMUMS (*Amateur*).—The ten varieties mentioned in your query are well-known decorative Chrysanthemums, and in consequence the question of stopping the plants with the object of procuring crown buds does not apply to these plants. They should be grown to develop a free display of medium-sized flowers, and with this object in view should be stopped now and at each successive 6 inches of growth. Stop for the last time at the end of June, and from that point grow on to the terminal buds. Thin out these to suit your requirements.

AMARYLLIS LEAF FOR INSPECTION (*H. B.*).—The Amaryllis leaf is very badly infested with scale, which may be got rid of by sponging each leaf on both surfaces with a strong solution of soft soap and water. These pests have such a firm hold on the plant that it is probable two or three spongings at intervals of ten days or a fortnight will be necessary in order to thoroughly eradicate them. The Abutilon, too, must be served in the same way. In the case of this, it may be quite possible, without injuring the plant, to cut off some of the worst leaves and burn them, as the plant will soon grow away again. With regard to the number of leaves to be removed, you must be guided by the condition of the plant itself.

FRUIT GARDEN.

PEACH TREES WITH STRONG SHOOTS (*E. B.*).—Seeing that you lifted your Peach trees last autumn and that you have cut back the strong shoots, we anticipate that the growth of young shoots from these cut-back ones will be of moderate strength only this summer, and will be in good condition for bearing full crops next year. There is no other way of preventing this excess of growth in the branches except by lifting and root-pruning. In the course of the summer side shoots will grow out of the young shoots first formed; these should be pinched back to one leaf from their base. The young shoots first formed should not be stopped, but allowed to grow their full length, as these are the shoots which will bear fruit next year.

PEACH TREE ATTACKED BY SILVER-LEAF (*R. W.*). You have done quite right in removing the diseased branch, which is attacked by the disease known as silver-leaf. If you have cut the branch out beyond the point at which it shows a brown stain in the wood, you will probably have stopped the spread of the disease; but the rest of the tree may be infected, and then the best thing is to cut the tree out completely and plant another. The disease is due to the fungus Stereum purpureum, and no cure is known. Trees attacked rarely recover, and after death the fungus fruits appear. Infection is by spores, and the fungus gets in by a wound. All wounds should be painted with Stockholm tar as soon as made.

KITCHEN GARDEN.

PLANTING POTATOES (*A. G.*).—We think you have prepared one half of the plot in an excellent way, especially for early Potatoes. The second half of the plot, which has already been dug and not manured, will, we presume, be planted chiefly with later varieties. The Factor is one of the best. We should dig the cow-manure into the ground. Cow-manure is cool in itself, and not good for the sets to come into contact with in its raw state; but incorporated and mixed with light soil it is excellent. A light dressing of artificial manure could be given with great advantage, sown among the plants before the first moulding up takes place. This should be done in showery weather. Provided the manure is short and well rotted, the old-fashioned way of placing it in the furrows and planting Potatoes on top answers very well, especially with later varieties.

PREPARING ROUGH GROUND FOR POTATOES (*J. C. D.*). You say the ground is now covered with coarse grass, the top turves from which would not be of much use for potting soil. However, you could stack some of the best. The best way of dealing with such land is to trench it 2½ feet deep, burying the grass and turf it is growing in 15 inches deep, and picking out every particle of the roots of the Nettles as the digging proceeds, or the ground will soon become foul with them again. In trenching, care should be taken that the best of the soil is kept nearest the surface. As soon as the trenching is finished, plant in furrows or rows in the usual way. Do not plant under turves, and do not plough, but trench. The effect will last for years. Rhubarb does well in partial shade, provided the soil is deep and well manured; also Leeks and Horse-radish. Seakale does fairly well, also the summer and autumn Cabbage tribe; but those vegetables which have to stand the winter to provide a spring supply must not be planted in a shady place, as they would be too soft to stand the winter.

MISCELLANEOUS.

FUNGUS DISEASE OF HYACINTHS (*J. S.*). The name printed Pythium burganum should, as you suggest, read P. de baryanum. It may be added that eelworms, bulb mites, and the fungi Fusarium bulbigenum and Botrytis (Sclerotinia) appear very frequently to be sources of failure in bulbs.

JUDGING SCHOOL GARDEN (*School Garden*).—It is too early to judge a school garden, but it may encourage the scholars a little. We should wait until the seedlings are through and thinning has been done. Then give points for: Order and neatness, 10 maximum; paths and edgings, 10 maximum; straightness of lines, 10 maximum; correctness of thinning, 10 maximum; and best written labels, 10 maximum. We do not see that you can do more than this until it is possible to appraise the value of the crops, when the judging should be done on a point basis by an experienced gardener.

NAMES OF PLANTS.—*M. A. B.*—Daffodils: J. B. M. Camm (pale trumpet) and grandis (bicolor trumpet).——*A. P. F.*—Daffodils: 1, Barri Glitter; 2, Rugilobus; 3, Cernuus pulcher; 4, possibly Stella superba; too much withered to identify with accuracy.——*T. H. J.*—Saxifraga (Megasea) crassifolia.——*A. L. F., Lynmouth.*—1, Erica mediterranea; 2, E. m. alba.——*E. K. B., Wimbledon.*—Berberis Darwinii.——*S. G., Virginia Water.*—1, Rhododendron Rhodora; 2, R. ferrugineum; 3, Cassinia fulvida; 4, Leucothoe Catesbæi.——*W. F., Cambs.*—Anthurium scherzerianum.——*J. J., Belfast.*—1, Maxillaria picta; 2, Cœlogyne cristata; 3, Ada aurantiaca; 4, Davallia canariense; 5, Adiantum species.

SOCIETIES.

THE CORNWALL DAFFODIL AND SPRING FLOWER SOCIETY.

THE annual show in connection with the above society was held at Truro on the 8th and 9th inst., when there was an excellent display of Daffodils and flowering shrubs. The Rhododendrons, though excellent, were not quite so good as usual, but other shrubs were very fine. The weather was fine and visitors numerous, and the Hon. John Boscawen and his staff of helpers had made excellent arrangements.

THE DAFFODIL CLASSES.

Generally speaking, these were well contested, the flowers in most instances being fresh and good.

In Class 1, for thirty varieties of Daffodils in commerce, any section, first prize went to Mrs. Soltau Symons, Chadlewood, Plympton, for a beautiful lot, notable among them being Whiteweli, White Lady, Treasure Trove and Horace. In the second-prize group, staged by Miss Clarice Vivian, Bosahan, St. Martin, we specially noticed Chaffinch and some beautiful blooms of Scarlet Eye.

For a similar class, except that varieties not in commerce were allowed, Lady Margaret Boscawen was the only exhibitor, staging a nice group of fresh blooms. Lorelei (a beautiful white Leedsii), Will Scarlet, Cornish Cream and Horace called for special mention.

In Class 3, for nine distinct varieties of trumpets as defined in certain dimensions, there were three entries, first honours falling to Mrs. Soltan Symons, who had lovely flowers of Mme. de Graaff and Mrs. Morland Crosfield. Miss Clarice Vivian was a good second, her best variety being Princess, a beautiful smooth trumpet variety and almost white. Third prize went to Colonel the Hon. H. F. Trefusis.

For six distinct varieties of incomparabilis there were four entries, Mrs. Soltan Symons again coming to the front. Miss Clarice Vivian, Lady Margaret Boscawen and Miss Mabel C. S. Williams followed in the order named.

For six Barris Miss Clarice Vivian was first, Stonechat and Beacon being shown in fine form. Mrs. S. Symons was second and Miss Mabel Williams third.

For six Leedsiis Mrs. S. Symons secured premier honours, Miss Mabel Williams being second.

Miss Clarice Vivian was first out of seven competitors for three Poets, staging beautiful blooms of Comus, Cassandra and Horace.

Class 8, for fifteen distinct varieties, any section, was well contested, and Mrs. S. Symons is to be congratulated on securing the premier prize. Among her flowers we noticed good blooms of Horace and Mme. de Graaff. Miss C. C. Rogers, Burncoose, Perranwell, was second; and Mr. F. W. Jeffery, Lismore, Helston, third.

For single blooms the first prize winners were as follow: Trumpet, Miss Mabel Williams, with Monarch; incomparabilis, Mrs. S. Symons, with Lady Margaret Boscawen; Barri, Mrs. S. Symons, with Cavalier; Leedsii, Mrs. S. Symons, with White Lady; triandrus and cyclamineus hybrids, Mrs. S. Symons, with Dorothy Kingsmill; and Poet, Miss Mabel Williams, with Cassandra. In the foregoing classes, except Classes 1 and 2, flowers grown from bulbs priced over 10s. each were excluded.

In Class 16, for fifteen varieties, any section, in commerce or not in commerce, there was a big fight between Mr. J. C. Williams, Caerhayes Castle, and Mr. P. D. Williams, Llanarth, the former coming first with a grand lot shown under numbers, for which he was also awarded the Royal Horticultural Society's silver Flora medal. A fine Poet numbered 445 was about the best in the show, and a lovely incomparabilis, X3, was also very fine. Indeed, all were first-class. Mr. P. D. Williams in his second-prize group had some of his under names, Moonbeam (beautiful white), Pedestal, White Wax and Princess calling for special mention. Among those under numbers were some beautiful flowers, but it is useless to refer to them in detail until names are forthcoming. This exhibit was also awarded the Royal Horticultural Society's silver Flora medal. Mr. A. J. Nix, Mount Charles, Truro, was third.

In the single bloom classes in this section, all to be in commerce, the first prize winners were as follow: Trumpet, Mr. P. D. Williams, with Princess; Leedsii, Miss Lavender Williams, with Lavender; Poeticus, Mr. P. D. Williams, with Snow King.

For ten distinct varieties, any section, open only to those who have never won a prize for Daffodils offered by the society, Mr. C. Burleigh, The Sportman's Arms Hotel, Menheniot, was the only exhibitor, securing the first prize with a fresh lot of blooms.

FLOWERING SHRUBS.

These were a feature of the show, the Rhododendrons and many other choice kinds being shown in abundance.

For the best group of Rhododendron blooms, any variety, not exceeding twenty varieties, there were three entries, first prize and the Royal Horticultural Society's silver-gilt medal being awarded to Mr. J. C. Williams, Caerhayes Castle, for a very beautiful lot. Argenteum was particularly good, as were a number of seedlings, a pale pink one being particularly pleasing. Second honours went to Mr. D. H. Shilson, Tremough, who had a fine truss of the cream-coloured Nuttallii as well as the beautiful deep red Cornubia. Mr. Robert Fox, Penjerrick, was a good third, lindleyanum being well shown here.

The Royal Horticultural Society's silver Banksian medal was awarded to Mr. J. C. Williams for six vases of small-leaved Rhododendrons, these being intricatum, racemosum, Angustinii, yunnanense, lutescens and oliofolium.

The first prize for six distinct varieties went to Mr. P. D. Williams, who had a beautiful pink and also a deep red seedling. The second prize went to Mr. Charles Hext, Trebah, trebianum (a very large-flowered pink variety) being specially good.

For six cut blooms grown under glass, Mr. R. Fox was first with some beautiful varieties, the truss of Dalhousiæ being particularly fine.

For the finest cut blooms of Rhododendrons grown under glass, the premier award went to Mr. J. C. Daubuz, Killiow, Truro, for a wonderful truss of Nuttallii, the flowers being large and very clean.

The class for three large jars of outdoor Rhododendrons was very pretty, first prize going to Mr. Robert Fox, Penjerrick.

For a group of outdoor unforced flowering shrubs or climbers, the first prize and the Royal Horticultural Society's silver-gilt Banksian medal went to the Rev. A. T. Boscawen, Ludgvan Rectory, Long Rock, who put up a really wonderful lot. We need only mention such as Acacia verticillata, Viburnum Carlesii, Boronia heterophylla, Pittosporum eugenioides and Prostranthera violacea to give readers some idea of his favourable clime. The second prize and the Royal Horticultural Society's silver Banksian medal went to Mr. T. B. Bolitho, Trewidden, who showed, among other interesting plants, Embothrium coccineum, Grevillea sulphurea, Viburnum rhytidophyllum, Dendromecon rigidum and Abutilon vitifolium. In the third-prize group, shown by Mr. R. Fox, Penjerrick, and which also carried the silver Banksian medal of the Royal Horticultural Society, we noted such varieties as Anopteris glandulosa, Drimys Winteri and Pittosporum eugenioides. Fourth prize went to Sir Arthur P. Vivian, Bosahan, Clianthus puniceus and the white variety, Clematis indivisa and Cytisus racemosus being well shown.

For six varieties of outdoor unforced hardy shrubs, the first prize and the Royal Horticultural Society's silver Banksian medal were well won by Mr. P. D. Williams, who had Veronica macrocarpa and Erica australis rigida in splendid condition. Sir Arthur P. Vivian was second, having grand varieties of Drimys Winteri and Clematis indivisa. The third and fourth prizes went, respectively, to Mr. A. P. Bearne and Mr. C. Hext.

In a similar class, but confined to those who have never been awarded a prize offered by the society in these classes, the first honours went to Mr. E. Beard, Boscawen Park, Truro.

Violets were well and freely shown, the blooms being large and of good colour. A harmless joke was attempted in this section, scented flowers of the double Periwinkle, Vinca minor, being staged as a new Violet! Needless to say, the judges discovered the joke and dealt with it officially.

For Roses Lady Margaret Boscawen and Mr. A. Blenkinsop were the principal winners, the last named showing a fine vase of Catherine Mermet.

The classes for Polyanthuses and Primroses, three varieties of each, were splendidly contested, the plants being shown in round wicker baskets. Mr. A. P. Worth, Lemon Street, Truro, was first for Polyanthuses, and Lady Margaret Boscawen for Primroses.

For a collection of hardy unforced spring flowers, twelve varieties, not to include hard-wooded shrubs, Mr. P. D. Williams was first, staging, among other varieties, Ourisia macrophylla, Epimedium sulphureum and Caltha polypetala. The second prize went to Mr. T. B. Bolitho, and third to Lady Margaret Boscawen.

NON-COMPETITIVE GROUPS.

Captain T. A. Dorrien-Smith, Isle of Scilly, staged a wonderful collection of plants of botanical interest. We doubt whether so good a collection has ever before been shown. Among others, Beschorneria tuccoides with a flower-spike 5 feet long, Brachyglottis repanda, Correa niveus, Grevillea sulphurea, Correa cardinalis, Acacia longifolia, Sophora tetraptera grandiflora, Echium callithyrsum, Acacia verticillata, Fuchsia cordifolia, Psoralea affinis, Sedum arboreum, Correa alba, Agonis marginata, Illicium anisatum, Pittosporum Tobira, P. tenuifolium, P. t. Mayii, P. Raphii, P. Colensoi, P. undulatum, P. bicolor, P. cornifolium and P. eugenioides were some of the most interesting. A group such as this staged at a London show would create much interest. Royal Horticultural Society's gold medal.

Messrs. R. Veitch and Sons of Exeter put up a miscellaneous group, mainly composed of choice hardy plants, Clianthus puniceus, Olearia insignis, Daphne Cneorum, Osmanthus Delavayi, Ribes cereum, Psoralea arborea, Gerbera Jamesonii hybrids, Primula helvetica nivalis and Anemone Pulsatilla were some of the most interesting that we noticed. Royal Horticultural Society's silver Flora medal.

Mr. G. Reuthe, Keston, Kent, staged a comprehensive group of alpines and shrubs, Rhododendrons being conspicuous among the latter. Of the rock plants, Primula nivalis hybrids, Saxifraga Bertolonii, S. Boydii, Primula Juliæ, P. glutinosa and Saxifraga Stribneyi called for special mention. Among many interesting shrubs we noticed cut flowering sprays of Illicium floridanum. Royal Horticultural Society's silver Flora medal.

Mr. C. Bourne, Bletchley, had a small but very beautiful and splendidly-arranged exhibit of his famed Narcissi. These included a number of good new sorts, a few that specially appealed to us being Red Lady, Queen of Hearts, White Countess, Countess Grey, Florence Pearson and Mrs. Robert Sydenham. Silver-gilt Flora medal of the Royal Horticultural Society.

Messrs. Barr and Sons, King Street, Covent Garden, staged a fine lot of Daffodils, the arrangement being superb and in excellent taste. Among other varieties calling for special mention were Cleopatra, Lord Roberts, Mrs. G. H. Barr, Venus, Charm, Cœur d'Lion, Royal Star and Lord Kitchener.

Mr. J. C. Martin, Truro, staged a nice group of Narcissi, Brunette being one that called for special mention. Several rather attractive red-eyed seedlings were also among this group, to which the Royal Horticultural Society's silver Banksian medal was awarded.

Messrs. Treseder and Co. of Truro put up a collection of hardy Tree Ferns, Acacias, Boronias, Hydrangeas, Ericas, and forced Roses and other greenhouse plants, the whole being well grown and clean. This firm also had some nice rock garden plants, Gentiana acaulis being particularly pleasing.

From the Devon Rosery and Fruit Farm, Limited, came a collection of Roses in pots and some well-preserved Apples, the latter including such varieties as Annie Elizabeth, Bramley's Seedling and Newton Wonder.

Mr. Jephson, Hessenford, Cornwall, staged a miscellaneous lot of alpine plants. Primula helvetica nivalis, Œnothera ovata, Silene Hookeri, Onosma taurica, Primula Forrestii, and several unnamed seedling Saxifrages lent interest to this group.

A beautiful plant of Grevillea hookeriana was shown by the Rev. A. T. Boscawen, Ludgvan Rectory. This is a native of West Australia and a very rare plant in this country. The specimen shown was a splendid example of the gardener's skill, the blood red inflorescences reminding one of giant tooth-brushes. This received a first-class certificate from the Royal Horticultural Society.

Awards of merit were granted by the Truro Society to the following: Mr. P. D. Williams for Camellia Lady Buller and Ourisia macrophylla; the Rev. A. T. Boscawen for Pernettya ciliaris and Pentapterigerum rugosum; Messrs. Barr and Sons for Narcissus Venus; Mr. C. Bourne for Narcissus Golden King; Mr. J. C. Martin for Narcissus Silver Penny; Mr. Reuthe for Rhododendron Elsæ; Messrs. R. Veitch and Sons for Osmanthus Delavayi; and Mr. Jephson for Primula Forrestii.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

The annual spring show of this society was held in the Waverley Market, Edinburgh, on April 9 and 10, and proved a most interesting and attractive one. The competitive section was of high excellence. In few of the classes was there any reduction of quality from that of former years, while in many there was a marked advance. The trade exhibits were remarkably good for the spring show, and they gave a brightness and quite an effective appearance to the large area of the market. The show was opened on the afternoon of the 9th by the Marchioness of Linlithgow in a brief but appropriate and graceful speech. It is impossible to do justice to the trade exhibits in the space available, and it is only possible to refer briefly to the leading features in a few of the stands.

Messrs. Dobbie and Co., Edinburgh, made a magnificent display, occupying a large space on one side of the market, their exhibit being marked by the high quality, exquisite condition and tasteful arrangement always present in their show exhibits. The group of spring bulbous plants included many of the choicest Narcissi, Tulips, Hyacinths and other subjects of this nature, with lovely Violas, these making quite a show in themselves. A grand group of Roses in pots was also exhibited, these comprising such flowers as Jessie, Juliet, Rayon d'Or, Melody, Mrs. Taft and many more. Adjoining these was a fine group of Cinerarias in the various classes, followed by a bank of magnificent Calceolarias. A large and representative collection of Potatoes was also exhibited by the firm. Gold medal.

One of the finest things in the show was the extensive exhibit on the floor of Messrs. R. B. Laird, Dickson and Sons, Edinburgh, this being a truly grand group of forced and other shrubs, together with other flowering and decorative subjects. Admirably arranged and composed of a number of the best Rhododendrons, Lilacs, Azaleas and Roses, this group attracted much attention and well deserved the gold medal it received. It was highly creditable as the first public exhibit of the incorporated businesses of the two old firms of Messrs. R. B. Laird and Sons and Messrs. James Dickson and Sons.

Messrs. Dicksons and Co., Waterloo Place, Edinburgh, set up another very fine exhibit on the floor. The finest feature here was the grand lot of Hippeastrums (Amaryllises), these being of exceptional beauty and quality. The group, which was an extensive and highly tastefully arranged one, included Azaleas, Rhododendrons, fine standard Zonal Pelargoniums, Lilacs, Tulips and Narcissi. Gold medal.

From Mr. David King, Osborne Nurseries, Edinburgh, came a glorious group of plants and flowers, which practically occupied one end of the market, and which was arranged in a manner which gave much pleasure. A low bank of plants, arranged in a winding outline, with turf in front, it contained a number of good things, such as Roses, Lilacs, Cytisuses, Rhododendrons, Ferns, Palms, and other flowering and foliage plants. Mr. King, who is the president of the Scottish Horticultural Association, received much praise for this group. Gold medal.

Another striking exhibit, which also received a gold medal, was that of Messrs. J. and A. Glass, Edinburgh, who sent a magnificent lot of Carnations, these including the best of the present-day varieties, splendidly grown and shown.

A silver-gilt medal was given to Messrs. Cunningham, Fraser and Co., Edinburgh, for their alpine plants, arranged on rockwork and including a number of good alpines, both old and new. The Primulas, now so popular, were represented by the new P. pionatifida, Forrestii, giraldiana (syn. muscarioides), littoniana, hirsuta variety nivea, decora, d. alba, a number of the viscosa hybrids, pulverulenta and others, while the other plants in this choice display included Morisia hypogæa, Androsaces, such as pyrenaica and others; Haberleas, virginalis being among the number; Saxifrages Faldonside, Boydii, Cherrytrees, Arkwrightii and many others, with Anemones, Heaths, &c. The little Rhododendron Grievei, raised originally by Mr. James Grieve, was delightful with its dwarf habit and soft pinkish or rose and white flowers.

A similar award went to Messrs. Cutbush and Son, London, for a most creditable exhibit of alpines, Carnations, &c. The Carnations made a brilliant and effective group, prominent among them being Mrs. E. C. Raphael and others, while the alpines comprised, among many others, the pretty Saxifraga Miss Willmott, the double blue Hepatica, Tulipa platystemon, Iris orchioides and a number of other good things.

The Orchids of Messrs. Sander and Sons of St. Albans were honoured with a silver-gilt medal, the small but choice group including a number of real merit and rarity which space prevents detailing.

The large group of Messrs. Storrie and Storrie, Glencarse, N.B., received a similar award. Noteworthy here was the mass of Primula obconica of the highest quality, showing in a marked degree the improvements effected within recent years. In colour, size of truss and of individual pips these plants were admirable. Cinerarias of equal quality constituted the other leading feature of Messrs. Storrie and Storrie's exhibit.

A silver-gilt medal was also given to Messrs. Young and Co., Hatherley, Cheltenham, for one of their magnificent displays of Carnations of the most modern type; and to Messrs. Hogg and Robertson, Dublin, for a grand array of Narcissi, Tulips and Anemones, these all being very fine and well displayed.

From Messrs. John Forbes, Hawick, Limited, came a varied and interesting group of Streptocarpi, Caladiums, Azaleas, Primroses, Polyanthuses, Auriculas, Primula species, Viola gracilis and florists' Violas, with Cytisuses and a number of other good things. Silver medal.

Mr. Clarence Elliott, Stevenage, staged a good variety of alpines, shown on well-arranged rockwork. In good masses, these looked well in the natural arrangement of the rocks. The plants included Lithospermums, Gentiana acaulis, Æthionema iberidenm, Androsace carnea, several of the best red Mossy Saxifrages and others of the genus, Oxalis enneaphylla, Primulas, Sempervivums and Sedums. A silver medal was awarded.

Messrs. J. Piper and Son, London—new exhibitors here—had a capital group of alpines and shrubs suitable for rockwork. A leading feature was the collection of Primulas, including a most varied set of viscosa hybrids, mostly under numbers only. Mrs. Robinson, yellow, was good, though approaching some of the old P. Auricula forms. Sarracenias, Saxifrages, Gentianas and Aubrietias composed a group which attracted much notice. Silver medal.

A silver medal went to the Liverpool Orchid Nursery (John Cowan), Limited, for a handsome group of good Orchids; Mr. T. E. Dawes, King's Lynn, for Rhubarb; and Messrs. Thyne and Son, Dundee, for a capital stand of alpines and other hardy flowers. A bronze medal was awarded to Messrs. Reamsbottom and Co., Geashill, King's County, Ireland, for Anemones.

The decorated dinner-tables brought out a capital competition, and the judges must have had some difficulty in arriving at a decision. Mr. J. Wilson came first, with Mr. J. Hood second and Mr. D. Kidd third.

Fruit was limited to two classes, and Mr. G. Anderson was first for a dish of Strawberries, Mr. T. M'Phail winning a similar position for bottles of fruit.

Vegetables formed a most attractive section, Mr. R. Stuart winning for the collection of vegetables and also for the collection of salads. Other winners were Mr. W. F. Staward, Mr. D. Fraser, Mr. J. Cossar, Mr. W. G. Pirie, Mr. J. K. Brown, Mr. J. Paterson and Mr. G. M. Service.

In the under-gardeners' competition for a plan of laying out thirty-eight acres, the following were announced as the prize-winners: First, Mr. H. G. Oliver, Edinburgh Royal Botanic Gardens; second, Mr. J. W. Forsyth, Markyate Gell, Herts; third, Mr. Archibald Macey, Godington Gardens, Ashford, Kent.

Non-competitive exhibits by private exhibitors were Brachyglottis repanda, a pleasing New Zealand shrub, from the Marquis of Linlithgow; and splendid pans of Saxifrages Boydii, Faldonside, Cherrytrees and pyrenaica splendens, from Mr. W. B. Boyd, Faldonside, Melrose.

The arrangements of the council and of Mr. Mackenzie, the secretary and treasurer, were excellent.

DUMFRIES AND GALLOWAY GARDENERS' ASSOCIATION.

Mr. S. Arnott presided over the fortnightly meeting of this association in St. George's Hall, Dumfries, on April 5. There was a large attendance to hear the paper by Mr. James Henderson, The Gardens, Elmbank, Dumfries, on "The Chrysanthemum." The paper was in every way an excellent one, dealing with the various classes of the flower from a purely practical standpoint, Mr. Henderson, as he stated at the outset, refraining from discussing the question of the history of the flower. He pointed out its beauty and utility, and then passed on to speak under separate heads of the three leading divisions into which he grouped his flowers. These were the early-flowering, the decorative midseason varieties, and the late-flowering or exhibition flowers. In each of these sections Mr. Henderson gave full directions regarding their propagation and cultural after-treatment. Abounding with humour, the paper was closely listened to and much enjoyed. A spirited discussion took place, the points principally raised being: Time of propagating autumn varieties, the effect of the use of nitrates on the duration of the blooms, single pots or boxes for cuttings, the cure of rust and other subjects of importance. Mr. Henderson replied on the discussion, and received a warm vote of thanks.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The Best Bedding Pelargonium.—At the trial of bedding Pelargoniums held by the Royal Horticultural Society at Wisley last year, it was proved that there was no advance on some of the older and well-known varieties. Paul Crampel was considered to be much the finest scarlet-flowered bedding variety in the whole trial, which included ninety-eight stocks.

Large Prize for a New Rose.—Raisers of new Roses will learn with interest that the management of the Panama-Pacific International Exhibition, to be held in San Francisco in 1915, are offering a cup, value 1,000dol., in addition to any award that the horticultural jury may vote, for the best new Rose that is shown. Amateurs and professionals will be entitled to compete, but the Rose must be unnamed and must not have been previously exhibited.

White Hepaticas in the Rock Garden.—A charming effect has been produced in the rock garden of the Royal Botanic Gardens, Edinburgh, by the tasteful manner in which a number of plants of the white Hepatica, Anemone Hepatica alba, have been planted. On a somewhat steep portion of shelving rockwork, rising to 6 feet or more high, the Hepaticas were planted along the little terraces between the shelving rockwork. The effect in April has been remarkably pleasing, the pure white flowers of the Hepaticas showing in an exquisite way against the dark stones. The position appears to be a partially shaded one.

A Good Plant for Shade.—Hypericum calycinum, commonly known as Rose of Sharon or St. John's Wort, will be found useful for planting in shady places, such as under trees, providing these are not exceptionally dense, where it is sometimes difficult to get grass to become established. The plants are easily increased by division, and pieces with roots, planted now, will soon furnish ground which would otherwise remain bare. It is advisable to plant thickly to get the ground covered in a short time, and apart from cutting off the old growths in the spring, when the new ones appear, the plants will need little attention.

A Gorgeous Tulip.—One of the most interesting flowers in our garden just now is Tulipa fosteriana, a beautiful species from Bokhara that deserves to be grown wherever Tulips are appreciated. The immense goblet-shaped flowers are rich scarlet, glowing as a furnace, with a rich yellow centre, in which are delicately poised slate blue anthers. We have given it a warm corner in deep, loamy soil, and there it seems quite happy. The largest flower measures 6 inches from the base to the tips of the petals, the largest of which is 2¾ inches wide. The foliage is large and pale, almost glaucous, green in colour, and the flower-stems attain a height of about eighteen inches. This species received a first-class certificate from the Royal Horticultural Society in 1906, but as yet seems to be little known. Mr. Jacob must assist us in spreading its virtues.

Lime-Sulphur *versus* Bordeaux Mixture for Spraying Potatoes.—Experiments conducted at the New York Agricultural Experimental Station last year proved that a solution of lime-sulphur cannot be recommended as a spray for the Potato disease. On the other hand, six applications of Bordeaux mixture increased the yield of marketable tubers at the rate of 111·5 bushels per acre. The lime-sulphur wash dwarfed the plants, though it did not appear to burn the foliage. On the other hand, the Bordeaux mixture prolonged the life of the plants about two weeks.

A Good Annual for Cutting.—When sowing hardy annuals, the Sweet Sultan should not be forgotten, as for border embellishment it cannot be surpassed. The flowers remain fresh in water for a long period, and are therefore valuable as cut flowers, being very effective either in vases alone or mixed with Fern, light Grasses, or with Gypsophila. The seeds should be sown where the plants are to flower, and the best results are obtained from plants that are well thinned. There are several beautiful varieties. The Bride (white), The Bridegroom (heliotrope), The Bridesmaid (yellow) and splendens (rich wine red) are some of the most distinct, although a mass of mixed shades is very attractive.

Hardy Annual Calceolarias.—Among the many hardy annuals, few are more deserving of a place in our gardens than the annual Calceolarias. Seeds of these sown now in beds or borders containing Aquilegias, Sweet Williams, or similar early-flowering plants will make such beds look bright at the latter part of the summer when the permanent occupants are over. They are easily grown. Seeds may be scattered among the early-flowering plants and raked in the soil, which should be fairly rich. A good watering occasionally during the dry weather is all that will be found necessary. Calceolaria chelidonifolia, C. pinnata and C. mexicana are the most commonly known, each being useful for this purpose.

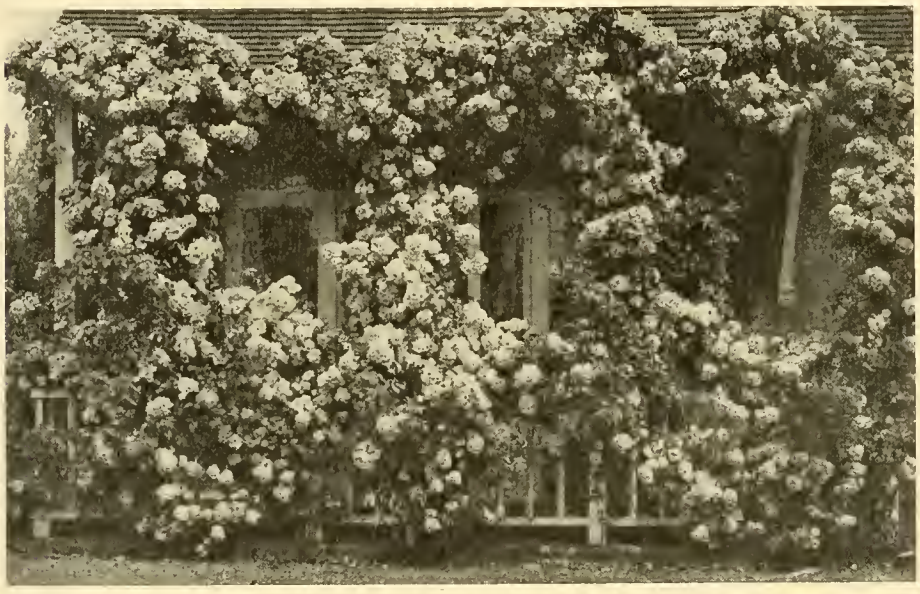
Potatoes as a Cure for Headache.—Those who have hitherto regarded the humble Potato solely as a wholesome and useful vegetable will be interested to learn that it possesses other virtues. According to a short article in the *Lancet* for last week, the small doses of poisonous solanine contained in a healthy Potato "are stated by some authorities to be an excellent sedative, and more efficacious in long-standing neuralgia than either antipyrine or antifebrin. We have little doubt that oftentimes a judicious diet of Potatoes would be of greater benefit to a good many self-physicking people than a dose of some antipyretic substance which they regard as adapted to relieve all headaches, whatever their origin."

CORRESPONDENCE.

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

Rose Blush Rambler.—This single-flowered climbing Rose is one of the most vigorous-growing varieties suitable for outdoor cultivation, and for clothing arches, pergolas or verandahs has few equals. It blooms comparatively early, and produces its large trusses of blush flowers in great profusion. The accompanying illustration, showing this Rose growing on a house at Bexhill, was kindly sent to us by Mrs. Mainwaring, Bembridge, Isle of Wight, and well depicts the free-flowering characters of this charming Rose.

Anemone robinsoniana cornubiense.—Here we have a very pretty Wood Anemone, resembling the lovely blue A. robinsoniana, save that the exterior of the buds and flowers is red, this colouring giving a special brightness to the buds and to the flowers when they are closed. This is a charming little Wood Anemone, easily cultivated in semi-shade, shade, or even sun, but preferring a light, rather open soil, though this should not be too loose. It is as hardy as the common wild Wood Anemone, and tubers should be procured in early autumn and straightway planted about two inches deep.—S. Arnott, *Dumfries.*



ROSE BLUSH RAMBLER IN A READER'S GARDEN AT BEXHILL.

Caterpillars on Fruit Bushes.—Paris green is about the only effective remedy for these pests. It can be mixed with water and applied, but the best method of preparation is to make up some lime-water in the usual way, and into every five or six gallons stir 1oz. of Paris green. Churn them well together, then spray as finely as possible over the bushes and trees. A week later syringe with lukewarm water, in order to remove the substance from all fruits. This method is one of the most effective, but should not be adopted within a fortnight of the date when the fruit is to be gathered, as the Paris green is poisonous. If the spraying is performed after picking the fruits, allow the substance to remain on the foliage. It will do no harm and keep off pests.—Hugh H. Aitken.

Berberis verniculosa.—This new Barberry promises to be a good subject for the rock garden if it at all fulfils the expectations one forms from seeing plants in pots. This was in the Royal Botanic Gardens, Edinburgh, where little specimens not more than 3 inches or 4 inches or so in height were bearing a number of their bright yellow flowers along with their pleasing, small leaves. I am not certain whence this charming little Berberis comes, but it is probably a Chinese species. Should it turn out to be as hardy as it looks and to retain its dwarf habit, B. verniculosa will achieve some favour from cultivators of rock plants.—S. A.

Wallflowers for the Cold Greenhouse.—Readers who have unheated greenhouses in which they would fain see flowers throughout the winter may like to try Wallflowers, which with me have been continuously in bloom from October to April. Formerly I tried seedling plants, such as those used for spring bedding, but these did not flower before the end of February. Last May, when the spring bedding Wallflowers were cleared away, I saved some of the best-shaped plants, potted each into a 5-inch pot, and sunk them where space offered in a mixed border. There they were left till October, when they were removed to the cold greenhouse, and were very shortly in bloom, as they have continued ever since. Primrose Dame was the variety used.—M. Kenny, *Cambridge.*

Failure of Anemone fulgens.—As Mr. Arnott asks, on page 181, issue April 12, for opinions about Anemone fulgens, I may say that here in Surrey it flourishes well, but not in the natural soil, which is poor and sandy. We find it will only do well in the moister parts of our garden. Each year it flowers in abundance during about two to three months on the lower parts of a small rock garden in which the soil is entirely made up of good, light loam with some leaf-mould mixed with it. In this part of the garden the natural subsoil is rather moist sand. The plants are in full sun, but they also do equally well in a small bed with the same subsoil where they only get the midday sun. The flowers sometimes begin before January is over, but this year they did not begin till the end of February.—Tempus Fugit.

How to Grow Saxifraga burseriana.—I am interested in "Alpinist's" very considerate challenge on the above subject, page 191, April 19 issue. I am very grateful to him for not dealing more harshly with one whom, I fear, he has proved a false prophet. I will frankly confess that S. burseriana puzzles me. Mr. Elliott, whom I took with me for our first sight of the plant in one of its *loci classici*, will bear me out when I say that it there luxuriates on limey silt in a very deep and sunless gorge, and there alone. Similarly I have since seen it in the Schlern Klamm, the same great Tridentine form, but less abundant and less luxuriant. (But there was born S. b. Gloria and by me collected.) And here also it appears, though less rigidly, to shun the more open and sunny places. Finally, on the high crest of the Hoch Ober, in the Karawanken, S. b. minor may be found in enormous masses, always, for choice, on the under side of the shelving tussocks, though exposed to all the wind and rain along the mountain's neck. It was under the influence of these experiences that I declared the plant (in "The Rock Garden") to "detest sunshine and open positions." I do not think that the allusion or general prescription for the whole race of Kabschia in "My Rock Garden" is really contradictory to this, as it has to cover so much wider a field to generalise about the section, rather than prescribe specifically for one member of it. At the same time, I incline to think that the more general statement may perhaps be nearer to horticultural truth (as conditions so vary) than the stronger pronouncement of "The Rock Garden," though this as a fundamental fact of the plant's natural requirements should always be kept in mind. At the same time, "Alpinist" must remember that "dry and sunny," "cool and shady," mean very different things in almost every garden of almost every English county, and a very, very different thing, again, from the sun and shade of the Salurn Gorge or the Schlern Klamm. I myself mean by "detests sun and open positions" merely that—having so often seen burseriana in Southern gardens fried and frizzled out of life by being planted in the "dry, sunny positions" in which Mr. Robinson hopes it will soon form good-sized tufts—now I should always advise cultivators in hot counties to give it a northerly or westerly exposure. Is it possible that "Alpinist" thought I meant that it should have positive shade of bush or tree? In this case I apologise for my obscurity. No wonder I have been found a false prophet. I am certain that burseriana, if it is to grow well in full sun in Southern Counties, depends on very perfect conditions of drainage and underground moisture. Generally speaking, to elaborate and clarify my prescriptions, I advise growing it in some quite open and unshaded position, but in one which does not get the full fury of midday summer heat, unless it be well watered from below and in a soil that suits the demands of such a baking situation—very loose, that is, with chips and lime rubble freely mixed with a light, rich compost. My own experience with the plant is valueless, for here (where the sun is pale) it grows without trouble in almost any aspect. But even here I should not give it my hottest situation. But in any case I am sure we must never forget that the very best forms of the plant—Gloria and magna—are only to be found in deep and darkish gorges, where they are protected from the rages of an Italian sun and summer, not by tree or bush, but by the vast encompassing walls of limestone on either hand.—Reginald Farrer.

A Hint when Syringing.—When using the syringe for spraying bushes with an oily or soapy emulsion, great difficulty is often experienced in holding it sufficiently tight to develop the required force necessary for successful work. If this is so, a band of metal should be soldered round the barrel at the most convenient point; a piece of corrugated brass or lacquered metal raised a quarter of an inch in the centre gives a secure hold. I have also seen a syringe having a piece of thick copper wire tightly wound round the barrel and soldered in position for the same purpose. A plumber will do the work for a few pence.—H. A.

A Rose Note.—Some weeks ago one or two Northern correspondents complained of the winter's havoc among their Rose plants. Happily, no such ill-effects have to be chronicled from this district. But had severe frosts visited us, I believe we should have fared equally badly, for as one has gone through the pruning operations, the soft and pithy state of so much of last year's wood is all too evident, thus making it necessary to cut some growths practically to the ground which otherwise ought to have been left with three or four good eyes. I presume this want of firmness in the wood is due to last year's lack of sunshine.—C. Turner, 3, *Kenwood Road, Highgate, N*

How to Destroy Ants.—Ants are often troublesome pests during the summer. A weak solution of carbolic acid, one to three parts of the ordinary commercial substance to 100 parts of water, is a good liquid to spray in places which they frequent; but a good insecticide is equally effective. Vaporite, a substance often advertised in your columns, is even better than the carbolic solution. I have also heard of boiling water being used successfully, as the insects do not love a moist habitation, even should they not be killed by the heat. If the nest can be found, it ought to be flooded with water, or liberally treated with some poisonous substance or a strong insecticide like Vaporite.—Hugh H. Aitken.

Double-Flowered Pink and Rose Almonds.—Among hardy flowering trees that adorn our gardens in early spring, those having flowers of a deep pink or rose colour are none too numerous, and amid the general run of white, yellow and blue flowered subjects their ruddy colours stand out conspicuously. Exceedingly picturesque at the present time is Prunus Amygdalus Clara Meyer, whose leafless branches are thickly set with deep pink flowers like miniature semi-double Roses. The flowers are exceedingly lasting, are not readily marred by adverse weather, and the trees are floriferous even in a young state. In Prunus persica rosea plena we have a double rose-coloured form of the Peach, while in the variety magnifica the flowers are of a much deeper shade. All these forms of Prunus are exceedingly ornamental, either as bushes planted in grass—at least a yard around the stems must be kept clear of grass—or as standards, singly as specimens, or grouped among other shrubs.—Thomas Smith, *Coombe Court Gardens.*

FORTHCOMING EVENTS.

April 29.—Royal Horticultural Society's Meeting and National Auricula and Primula Show (Southern Section) at Vincent Square, Westminster.

April 30.—National Auricula Society's Show (Midland Section) at Birmingham (two days).

May 1.—National Rose Society's Spring Show at the Royal Horticultural Society's Hall.

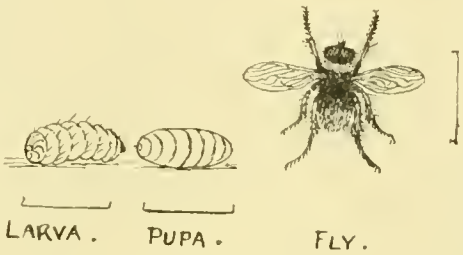
May 3.—Société Française de Horticulture de Londres Meeting.

MY EXPERIENCE WITH THE NARCISSUS FLY.

(Merodon Equestris.)

In writing of the Narcissus fly, I do not make any pretensions to profound knowledge, but I can see things are not exactly as we have been taught, and for this reason I have taken upon myself to put forward the points at variance with accepted orthodoxy. My first knowledge I gathered from the Rev. S. E. Bourne's "Book on the Daffodil," but my experience has led me to see that things are not exactly as described there, so I am now anxious to get a more perfect knowledge and to get others interested, so that by combined investigation we may find out the real life-duration of the larva and other matters connected therewith, which will clear away the mists at present surrounding the mystery. It is necessary that we should have proof of the position of the egg as it is deposited by the fly. This can be done by watching the female while occupied in this work. Then we need strong proof of the direction the newly-hatched larva takes, as it is a keenly-disputed point whether it works its way down the foliage inside the bulb or outside, entering from below. The approximate date of change from larva to pupa ought also to be known.

In 1909 I had a bed of Emperor Narcissi nearly destroyed by the fly. I took about thirty of the



THE NARCISSUS FLY (MERODON EQUESTRIS) WITH LARVA AND PUPA.

bulbs having larvæ therein and planted them in soil in a box, over which I placed a sheet of glass, so that none could escape. In March, 1910, the first fly metamorphosed; others followed in a few days, and I fed them with honey, but they did not live more than eight or ten days. May was the most prolific month. One of these larval grubs was of quite nomadic tendency; it left its home and wandered in the soil until it found a hole in the side of the wonden box from which a small knot had fallen, and in this it was jammed. No doubt its food supply had failed and it was in search of fresh quarters. Let it be noted that I found this larval grub thus jammed in April, at a time when it ought—according to accepted theories—to have been in its chrysalis state. This is one of the several points I did not grasp as I ought to have done until too late, but I think it will go a long way towards proving my theory of a two seasons' larval state. I did not then give it proper consideration. I was, after this, better acquainted with the fly, and began to watch for it in the garden. I found by experience that from 11 a.m. to 3 p.m. was the best time, and got into the habit of leaving all other work at those times so that I might give my undivided attention to their destruction. My method of capture was as follows: After accustoming my eyes to recognise the fly on the wing, I watched until I saw it drop on the soil near the beds; then, holding my net about two feet from the ground, I cautiously drew within striking distance, then dropped the net over it and flattened it out with my fingers as quickly as possible. I found that when the fly rises, being disturbed, it will, as a rule, settle again further along the bed; but if missed when struck at, it vanishes like magic to some distant retreat. I have, however, seen others take a turn round of, say, 20 yards, then as suddenly return and drop within striking distance and be caught. This is more especially so when the fly has been hatched on that particular bed—at least, I have thought so.

I saw no flies on the wing after June 25. In 1911 the season opened cold and wet, and I saw no flies until May 25. After this they came out daily, until I caught as many as twenty-seven in one day; then, dwindling in number, I caught the last on June 21. I kept a diary, and totalled a bag of 127 males and fifty-seven females. I experienced a great joy, believing I had caught the last. I have proved my imaginings sadly deficient. According to Mr. H. C. Long, *Gardeners' Chronicle*, October 12, 1912, the laying capacity of each female fly for one season is stated to be 100. I do not accept that. I have several times dissected the female, and with a cambric needle counted sixty, more or less, but always within half-a-dozen of that number. If, therefore, the number of bulbs destroyed in a season was based on the 100 product it would be very misleading. This year I caught fifty-seven females, and this number multiplied by sixty, which I consider correct, gives $57 \times 60 = 3{,}420$, representing the total number of bulbs that might be destroyed.

In 1912 the fly rose early, my first catch being on April 20. The Daffodil period was very early, too, and much difficulty was experienced by growers in keeping their flowers for the shows. The season was warm and the flies were very active. I was very active, too, and did not sit down to watch them grow. I took my "gun" (I always call it so) and went afield after the game. Last year I found it very late at work, and my last kill was on July 8. When I drew my balance I found I had a bag of thirty-eight males and sixty-six females. It is impossible to calculate the extent of the losses, because there is so much we cannot compute; for instance, small side bulbs suffer terribly when the large bulbs are affected. I consider this fly-catching method far outstrips any other scheme for the destruction of the flies. Here they are all killed before the breeding begins. In other methods, you must wait until a new generation of flies is at work in the bulbs. I often think of the old adage, "A bird in the hand is worth two in the bush."

A rather remarkable thing came under my notice last year. On March 26 I took up a bulb of Mme. de Graaff, owing to the ill-conditioned state of its foliage. Searching for a cause, I found a full-grown larval grub, and it set me wondering as to why that grub was still in a larval state—it really ought to be a chrysalis. I felt there was something wrong. I wanted to know *why*, so I prepared another bulb by cutting it in two and scooping out a portion to fit the grub in. I then put nails through it and stowed it away to keep it under observation. On June 25 I found another bulb having a full-grown larval grub, and I treated it in the same way. The nomad or tramp larva, previously referred to, now came to my memory, strongly confirming my theory of two seasons' larval existence. Keeping the two bulbs under observation until October 26, they were examined, found alive, and planted in soil in a flower-pot

There can be no question about them, but I shall keep an eye on them, all the same. Respecting this two seasons' larval life, I found a very strong confirmation of this in the *Gardeners' Chronicle*, October 19, 1912, from the pen of Mr. A. J. Bliss, F.R.H.S. He had a harvest of about ten thousand bulbs, and owing to the prevalence of the fly he made a most careful search for the larvæ and found from thirty to forty, each being about a quarter of an inch long. He also found three other larvæ three-quarters of an inch long. Not having arrived at my two seasons theory, he attributed those of the smaller size to some mysterious retardation while still in the egg state. He thinks the eggs remained dormant for some time after oviposition. Of course, this second season in the life of the larva must not now be lost sight of, but be followed up for fuller corroboration. All the same, it appears as plain as a pikestaff that two seasons must have been occupied in the life of the two I have under observation and the three named by Mr. Bliss.

With reference to fly identification, we have much instruction towards this that is helpful, but it needs repeating for amateur guidance. I would therefore put the method thus: The fly has many varied hues, is covered with short hairs, and very much resembles the worker female of the field bee. In flight it is more like the domestic drone bee, with a manœuvring similar to the blue-bottle fly. The colour is black, or black banded with grey, yellow, old gold, pinky russet, or sometimes all grey or yellow.

Methods for its Destruction.—1. First and best is a proper net to catch the fly. No other method is so effectual. 2. A constant watchful eye early in the morning when the fly is leaving its cocoon, or it may be found with wings not expanded, or even in the cocoon on the bed. It may also be found dormant on hedges, Box edging, Potato, Bean and Pea haulm and similar places. 3. A rigid inspection of all bulbs every time they change hands (raiser, sorter, packer, buyer and planter), and if this be done the beds will receive the benefit and the fly will cease to terrorise. 4. A close examination of bulbs where distorted foliage exists or where they do not grow properly, also of the beds round such, to find the chrysalis, in March, April, May and June. 5. Be careful to put the flies out of their misery as quickly as possible. Do not be tempted to follow such recommendations as spraying, steeping in hot water or stoving up to 120° Fahr. It is questionable if those recommending have proof of success.

George St. Ox.

DAFFODIL NOTES.

The Chairman of the Daffodil Committee.—Like all of us, our chairman, Mr. E. A. Bowles, always has a more or less severe attack of yellow fever every Daffodil-time; but this spring, unfortunately for himself and for us, he has combined it with a bout of the scarlet—the real thing, I am sorry to say. Hence he is a prisoner at Myddelton House, and I fear we shall not see him in his accustomed place for another week or two. Just fancy spending a whole Daffodil season in one's bedroom! The idea is too awful to contemplate, and yet in our chairman's case it has been a reality. I am sure there is not a single one of his colleagues who does not heartily sympathise with him in his misfortune and wish him a speedy return to the world.

THE NEW LEEDSII NARCISSUS ST. OLAF FOR WHICH MESSRS. BARR AND SONS RECEIVED AN AWARD OF MERIT AT THE LONDON SHOW LAST WEEK. (*See page* 208)

Two Barnstaple Seedlings.—My wanderings this year led me to both Barnstaple (Devon Show) and Truro (Cornwall Show). At the former I thought Mr. T. Batson of Beaworthy had a good seedling in Melpomone, a bicolor Barri, in shape rather like Crœsus. The pale orange cup and the ivory white perianth harmonised very well and gave a nice bloom. Size, 3½ inches by half an inch by 1⅛ inches. Ionia was another good seedling, shown by Miss Ida Pope of King's Norton. It is after the style of Albatross, but with a flatter and more expanded cup and a very pale canary perianth, overlapping and of good texture. Size, 3½ inches by half an inch by 1¼ inches.

Truro Show.—Truro and J. C. and P. D. Williams are inseparable. Here these famous champions of the Daffodil show meet in friendly combat every year. Their exhibits are always worth seeing, and this year was no exception. I spotted a very fine Poet in "Mr. J. C.'s." I have since learnt that our great Poet-maker considers it to be one of the *very very* best he has ever raised. The same variety figured on Messrs. Barr's stand at the London show last week, where it gained an award of merit under the name of Caedmon. Awards of merit were given to Venus, an excellent Giant Leedsii of a good class for shows, and also to Silver Penny (Martin). In days not so long ago it would have been called a bicolor Engleheartii. The big, flat eye was of a distinct tone of deep yellow, and the whole flower reminded me of Mr. W. T. Ware's very pretty Princess Alice, which is described by the vendor as "practically a white form of Princess Mary with a splendid constitution."

The Royal Horticultural Society's Daffodil Show.—"London," as we are beginning to call this show for short, was a great gathering of the clans. All sorts and conditions of flowers were to be seen in the hall. Mr. Stocks from Darlington must have given the merodons a short respite, for he had left his nets at home and brought some flowers. Then there was that keen amateur, Mr. Morton, who, I believe, holds the money-bags of the National Hardy Plant Society. His exhibits were many and also his prizes. Then, again, there were the White Lady and the White Gentleman—more famous, perhaps, in the Rose world than in ours—with much nice stuff. Lastly, but not inclusively, there were Parson Buncombe from Devon with good examples of the grand white trumpet Sibyl Forster and Red Wing, the reddest thing out in perianths; Canon Fowler, Mr. Mallender from Scrooby (a seedling-raiser of much merit), Mr. Lower from Mid-Wales, Mr. T. Batson, Mr. Cranfield, Mr. Staffurth, Messrs. Cartwright and Goodwin, Mr. Watts, Mr. Bourne, Mr. P. D. Williams, Mr. Crosfield and Mr. Wilson, the coming man, a description which I use with deliberate intent of one whom everyone thinks has already come—but "wait and see."

When our present King was Prince of Wales he made his famous tour of the Empire and recorded

his impressions in the now celebrated phrase, "Wake up!" The fascination of the Daffodil is great. Yearly it attracts an increasing number of devotees. It is as if a stone had been dropped in a still pool and the expanding ripples had just touched our big, big firms. Sutton's with their own seedlings! Carter's with quite a lot of good new things, of which perhaps Dazzler, a magnificent vase flower, was the pick! Veitch's, not to be left behind, had an orthodox stage full of good old favourites and new leaven. These signs are striking. So, too, but in another way, were the vast number of new seedlings that were everywhere to be seen. Someone asked me what would happen if they were all to be grown on into stocks. "Only one thing," I said; "apply to the new Chinese Parliament for a leave of their country." But this will not come to pass. There will be a great massacre of the innocents, and practical business men will find, I expect, their goose with the golden egg in having and holding large stocks of the precise things the public is sure to want and which it will have. What those varieties will be is the question of questions to the up-to-date Daffodil-grower. Mr. Ware, for example, acquired Horace. I have heard it said that he looks upon his possession as a certain yearly income for many years. I feel sure he is right. Another everyone's flower is White Lady, another is Lucifer, another is Aspasia, another is Olympia. To return to the show, of which a fuller description will be given next week, I feel I must, in response to many solicitations, lodge a protest here to the policy of the Council in allowing the Royal Horticultural Society's Hall to be let immediately before such an important show as that of April 15-16. It makes one wonder whether flowers or other things are the more important in their estimation. This is a bare statement of what happened last week: Time, 5 *p.m. on the day before the show.* No staging whatever fixed; about two hundred and fifty vases only available and, say, 1,500 wanted; dust *ad lib.* This I myself saw on my arrival. Readers can draw their own conclusions of the amiable frame of mind of the competitors who had arrived early to try to get forward with their work, for Daffodils take a long time to put up.

A Daffodil Year Book.—This is taking shape. The Narcissus committee have offered me the position of Editor, and I have accepted the same. I hope I may be able to turn out a book which will not disappoint the expectations of those who have waited for such a volume so long. More particulars concerning this will be forthcoming in due course. JOSEPH JACOB.

[We have made enquiries respecting the arrangements at the Royal Horticultural Society's Hall on Monday last, and find that the trouble referred to by Mr. Jacob was in a large measure due to the illness of the superintendent, Mr. S. T. Wright, who was unable to be present on either the Monday, Tuesday or Wednesday.—ED.]

CULTURAL HINTS ON NEW AND RARE PLANTS.

TREES AND SHRUBS.

(*Continued from page 99.*)

Ailantus vilmoriniana.—An ornamental tree allied to the well-known Tree of Heaven (A. glandulosa), from which it differs by having spiny stems and rose-coloured stalks to the leaves. It succeeds in loamy soil, and requires a position exposed to full sun, where the wood can become well ripened, for during its early life the plant is a little tender. Usually grafted upon stocks of A. glandulosa, it might be increased by root-cuttings once own-root plants were obtained.

Robinia Kelseyi.—The flowers of this are quite as beautiful as those of the Rose Acacia (R. hispida) and the same colour, while the species has the advantage of forming a larger plant and producing seeds, whereas seeds cannot be obtained from R. hispida. Propagation is effected by means of root-cuttings or by seeds. In the former case sections of root as thick as a lead pencil may be cut 4 inches long and be planted in light, loamy soil in a little heat in spring, when growths will be formed. Plant in light, loamy soil, and keep the leading shoot tied up and the side branches checked for a few years to encourage height.

Leptospermum scoparium Nichollii.—Many people voted this to be the most beautiful new plant shown at the International Exhibition held in London last year. It is an erect shrub, and has beautiful dark red flowers instead of the familiar white of the typical L. scoparium. In the South-West Counties it may be grown out of doors in ordinary garden soil like any other shrub, but in a colder climate a cool greenhouse is required. When new soil is provided, equal parts of fibrous peat and loam may be given with a fair proportion of silver sand.

(*To be continued.*)

THE BAMBOO GARDEN.

THE latter half of April and during May is an important time in the Bamboo garden, for during that period any necessary alterations may be carried out most satisfactorily, as Bamboos are then in the best condition for transplanting. It is also the best time for pruning, for although some people trouble little about this work, Bamboos which are regularly pruned have a great advantage over those which are left untouched.

Transplanting.—The time to begin dividing and transplanting the clumps varies according to the season, but a good guide is the condition of the new shoots. When these are from 2 inches to 3 inches long and new leaves are bursting on the older branches is the proper time to begin. Bamboos are not very fastidious regarding soil, for they thrive well in light, medium and heavy loam; but they must be planted in a position where the ground is never likely to become dry, or where plenty of water can be provided during dry weather. At planting-time it is a good plan to place a little leaf-mould among the soil which comes in immediate contact with the roots, while a little distance away well-rotted manure may be mixed with the soil. A good watering should follow transplanting, and both newly-planted and established clumps are benefited by a mulch of rotten manure and leaves applied in May. Wherever a good force of water is obtainable, it is an excellent plan to give the plants a thorough washing overhead several times a year, and particularly before and after pruning. This is specially needful in the case of plants growing in the vicinity of towns, where dirt collects about the leaves and branches.

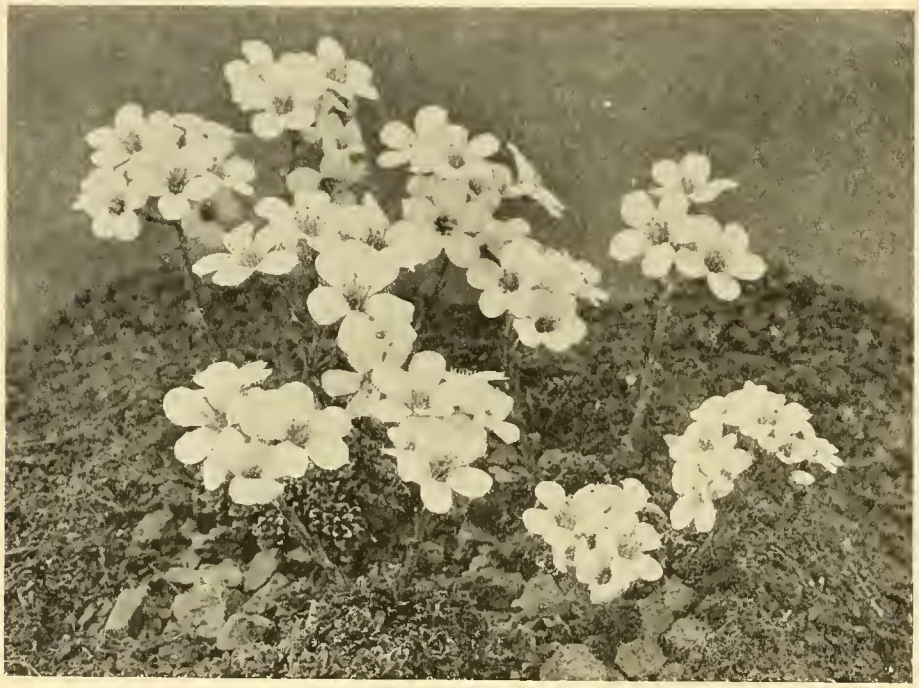
Bamboos are usually increased by dividing old clumps into small pieces, potting them up, and standing them in a moist and warm greenhouse until growth recommences; but whenever it is

HARDY BAMBOOS IN THE BOTANIC GARDENS AT CAMBRIDGE.

possible to obtain seeds of any species, it is very much better to raise plants from them than to propagate in any other way. As is well known, many Bamboos have flowered and died within the last few years. Some people have an idea that a plant which has flowered can be coaxed back to life; but if such a thing happens it is very rare, and the owner of a flowering plant would be well advised to keep a sharp look-out for seeds, for, once he obtains seedlings, he is safe for many years, as it is doubtful whether a seedling will bloom before it is thirty years of age; whereas a plant obtained by the division of an old stock plant may blossom and die within a year or two.

Varieties. — Over thirty different kinds of Bamboos have been introduced which are hardy in all except the coldest parts of the British Isles, providing a sheltered position is accorded them. Among the Arundinarias the following deserve special attention: A. anceps.—A Chinese plant growing from 7 feet to 9 feet high, with slender, wand-like shoots clothed with dainty, bright green leaves. A. auricoma.—A Japanese species which attains a height of from 3 feet to 4 feet. It is of dense habit, produces slender branches and has golden-variegated foliage. A. Fortunei.—Although this grows but a couple of feet high, it is very popular on account of its silver-variegated foliage. The Japanese A. Hindsii is an erect-growing plant 10 feet to 15 feet high, of rather coarse habit. It is surpassed in beauty by its narrow-leaved variety graminea, which, though quite as tall, is of better habit and more leafy. A. humilis and A. chrysantha are two dwarf-growing plants which attain a height of from 3 feet to 4 feet; both form rather dense masses. A. Kumasasa is better known in most gardens under the name of Bambusa palmata. It is of very distinct appearance, for it forms a wide-spreading mass 6 feet to 8 feet high, clothed with leaves 8 inches to 9 inches long and 2 inches to 3 inches wide. The wide-leaved plant seen in the illustration on page 205 is this species. In size of leaf it is only surpassed by one other hardy Bamboo, that being the Chinese and Japanese Bambusa tessellata, which, although only attaining a height of about three feet, often produces leaves which exceed a foot in length. Perhaps the hardiest of all Bamboos is A. japonica. It is often found in old gardens forming dense clumps 12 feet to 15 feet high and as far across. The dark green leaves are from 6 inches to 8 inches long. A. nitida is perhaps the daintiest of all Bamboos, its graceful, arching branches being clothed with small, elegant, bright green leaves. It grows from 6 feet to 9 feet high. The stateliest of the Arundinarias is A. Simonii, a Chinese species, which grows 18 feet high and forms wide-spreading clumps. As a contrast to this we find the Japanese A. pygmæa, which scarcely grows 1 foot high. It is useful for forming large masses by the water-side. More tender than the foregoing kinds are A. falcata, A. Falconeri, A. intermedia, A. hookeriana, A. nobilis and A. racemosa, all large-growing species suitable for a mild climate.

The Phyllostachys include such graceful plants as P. aurea, P. flexuosa, P. Henonis, P. mitis, P. nigra, P. sulphurea and P. viridi-glaucescens, all tall-growing plants, which form fine clumps with elegant branches. But perhaps the finest of all hardy Bamboos is found in P. fastuosa. Of more erect habit than the majority of the Phyllostachys, it grows 18 feet or 20 feet high, with stout branches clothed with showy, deep green leaves, which keep their colour later in spring than those of any other hardy Bamboo. A few species only of Bambusa are grown. One, B. tessellata, has already been mentioned. B. angustifolia and B. Nagashima are small-growing kinds, while B. quadrangularis is remarkable for its four-angled stems. It is only suitable for the warmer parts of the country. W. D.



SAXIFRAGA MARGINATA, A BEAUTIFUL ROCKFOIL FOR THE ALPINE-HOUSE OR ROCK GARDEN.

ROCK AND WATER GARDEN.

SAXIFRAGA MARGINATA.

AMONG the earlier-flowering members of the Rockfoil family Saxifraga marginata takes a foremost position. Its large trusses of pure white flowers are very charming during the end of March and the beginning of April, either grown in pans in a cold frame for use in the alpine-house or perched on a rocky ledge in the rock garden. In the shelter which is afforded by the former mode of cultivation the flowers are seen to the best advantage, unaffected by the weather, which is often detrimental to plants flowering at this early period of the year. Nevertheless, a group of this Rockfoil suitably planted in well-drained, gritty soil in a sunny, sheltered position in the rock garden, when in flower, is very attractive. The flowers are of greater substance than many other members of the Kabschia group, to which this species belongs. This group consists of about eighteen species of close-growing, tufted plants with small rosettes of leaves, which are pitted, and secrete lime along the margins. They are mostly natives of the dry, calcareous mountains of Southern Europe. S. marginata is a native of the Abruzzi in Italy, and is also said to be found on Mount Taygetus in Greece. The latter probably is S. Boryi, a distinct plant, but which is sometimes given as synonymous with the Italian plant. In the production of the numerous hybrids which have appeared in our gardens during recent years, S. marginata has played a prominent part as a parent. Of these the best is S. Borisii (marginata × Ferdinandi-Coburgi), a handsome plant of free-growing habit with large trusses of rich yellow flowers on erect stems 3 inches high. It is one of the best of the later yellow kinds. S. Obristii (burseriana × marginata) partakes more of the habit of the former parent in foliage, but has pure white flowers of greater substance like the latter. All three are of easy cultivation, their main requirements being ample drainage and gritty soil that does not get too dry in summer. They may be propagated by means of division in spring after flowering, or by cuttings in summer. W. I.

COLOURED PLATE.

PLATE 1470

THE HARDY NYMPHÆAS OR WATER LILIES.

(*Continued from page* 182.)

Varieties.—We have now, thanks in a great measure to the untiring efforts of the late M. B. Latour-Marliac, and more recently to his son and successor, a marvellous selection of hybrids, and that in surprising variety, both as it pertains to colour, to vigour and to freedom of growth. There is an abundant choice now in whites, in pale pinks, in deeper pinks and rose colours, in reds, in crimsons of various shades, and in yellows also. Of these some of the more recently-raised hybrids are most remarkable, both in purity of colouring, in size of flowers, in the breadth and substance of the petals, and in their floriferousness. To look at some of these later hybrids when in their full beauty is but to admire them, and even to wonder how they have been evolved out of those we knew, say, ten years back. In more than one instance the season of flowering has been extended, both

THREE GOOD WATER-LILIES:

White: "Gladstoneana."
Pink: "Mrs. Richmond."
Crimson: "Gloriosa."

Hudson & Kearns, Ltd., Printers, London, S.E.

early and late. Some of the best of these newer hybrids, so far as I have been able to note them, are: Whites—N. virginalis (Latour-Marliac, 1910), which is very free-flowering, with flowers of the largest size, the petals being shell-shaped and of the purest white. The sepals are very slightly tinged with faint rose colour at the base, the stamens being yellow. With us it is the earliest of all to flower, as well as one of the very latest. Its description anent this by Latour-Marliac is "précoce et tardive," and it well explains this characteristic. The foliage is large, and has a faint tinge of purple therein. Of pale pinks, N. Mrs. Richmond (Latour-Marliac, 1910) is, in my opinion, the most lovely flower imaginable in this the softest of colours. Of it we have had flowers nearly, or quite, nine inches in diameter. The petals are broad and massive, the stamens yellow. The flowers, when fully expanded, are a lovely sight. Its vigour, too, is all that one can desire. It has flowered now for two seasons with us, and is gaining in vigour. (See coloured illustration.) N. formosa (Latour-Marliac, 1909) is somewhat similar to the preceding in its colouring, but deepening towards the centre. The petals in this instance, I have noted, are distinctly margined with pale pink (quite a picotee edge); the growth, also, of this hybrid is very vigorous. The stamens are yellow and the flowers of the largest size. N. somptuosa (Latour-Marliac, 1909), in which the rose colour is slightly more intensified, is another acquisition. In form it very much resembles N. Laydekeri rosea, having that incurved shape of the petals. The stamens are of a deep orange tint. I should add that the petals are more numerous than in many of these hybrids; in addition, also, it is fragrant. The growth is both dense and vigorous. N. Newton (Latour-Marliac, 1910) is not, strictly speaking, a pink colour, having a suffusion of vermilion, though of a pale shade. Its flowers are stellate in form and stand distinctly above the foliage; the stamens are orange yellow. N. Colossea (Latour-Marliac, 1901) is not, strictly speaking, a new variety; nevertheless, I do not think it is sufficiently known. It produces the largest flowers of any with us, and is best described as being a glorified N. Marliacea rosea. I have noted its flowers in the height of the season as much as 10 inches in diameter. It flowers both early and late; the foliage, also, is of the largest size. The parentage of N. Colossea is given as being N. maxima alba × N. gloriosa. Of crimsons, the finest, in my opinion, is N. Escarboncle (Latour-Marliac, 1909). In its colouring it is almost unique. We have none that approaches it in intensity of colour, which is described as a uniform vermilion red. So far I do not think it is found in many collections. The stamens are of a deep vermilion red, very distinct. N. Meteor (Latour-Marliac, 1909) is somewhat after the preceding, but not so brilliant in colour. The petals are streaked with white, but not regularly; the sepals are lined with red, and the stamens of a golden yellow shade. N. Attraction (Latour-Marliac, 1910) resembles somewhat that well-known hybrid N. atropurpurea. It is, however, much brighter, and cannot be considered as of the same colour, which in this instance is a deep bright purplish crimson with venations of almond white; the stamens are of a deep mahogany tint. N. Conqueror (Latour-Marliac, 1910) has very fine and distinct flowers of the largest size, bright red in colour, with white veinings occasionally, the colouring being deeper upon the convex side of the petals; the stamens in this instance are orange yellow. The flowers possess great substance in addition. The foregoing are ten of the finest of the newer hybrids, so far as I have been able to prove them. They are all distinct from the older varieties, and every one possesses the essential of a vigorous growth.

LYCASTE SKINNERI, A BEAUTIFUL YET EASILY-GROWN ORCHID FOR THE AMATEUR'S GREENHOUSE.

One other new hybrid, with flowers of a stellate form, is N. James Hudson (Latour-Marliac, 1912). Of this I hope to report on another occasion. So far I have not had a good flower of which I could form a correct opinion. Others that are to be sent out this season bid fair to be quite distinct. Of these I will only give the names of four that should prove acquisitions. These are N. Gloire du Temple-sur-Lot, N. Marguerite Laplace, N. Picciola and N. Sirius. These will not be distributed until they have been exhibited in Paris when in flower.

There are two other varieties which make up the trio in the coloured plate of this issue. One is N. gloriosa (Latour-Marliac, 1896), the parentage of which is given as N. Laydekeri × N. caroliniana. In its colour and form there is not one that is finer. The colour needs no description here, but as regards its form it should be noted that N. gloriosa has, in every perfect flower, five sepals. It is the first hybrid in which I have noticed this tendency. This causes the flower to open more fully, and to show itself to the best advantage in so doing. N. gladstoneana is given in *Le Jardin* as N. tuberosa gladstoneana, and the parentage as N. tuberosa × N. alba (Richardson, 1897). It is a most remarkable hybrid and one of the finest whites in cultivation, with no semblance whatever of pink in the petals; instead of which the few touches of palest green add to its beauty. The flowers are somewhat after N. tuberosa in form, being disposed to incurve as in that species. The flowers are of the largest size, while the leaves are larger than any other Water Lily with which I am acquainted. I suppose this latter feature is why the moorfowl oftentimes select it upon which to make their nests.

James Hudson, V.M.H.

Gunnersbury House Gardens, Acton.

(To be continued.)

GREENHOUSE.

EASILY-GROWN ORCHIDS FOR THE AMATEUR.

Lycastes.—The genus Lycaste contains several plants which are largely grown for their useful and decorative value. The most popular is L. Skinneri, from 12 inches to 24 inches in height, while the fleshy, handsome flowers are usually a beautiful shade of rose. These are produced from the base of the last-made pseudo-bulb, being borne singly upon erect scapes. There are various forms of L. Skinneri, such as alba, a chaste variety with pure white blooms, and others with paler and deeper shades of rose, while the lip in some instances is distinctly marked with crimson. It is an ideal plant for an amateur to choose. The amount of variation to be found in this species makes it an interesting subject to buy freshly imported. It is free-flowering, of easy culture, and the flowers remain in perfection for several weeks. Such attributes are not always to be found wrapped up in a single species. For the grower who desires other representatives of this genus, I would suggest the yellow aromatica and its closely-allied neighbour cruenta.

Cultural Notes.—At this period of the year L. Skinneri and its numerous varieties will be past the flowering stage, and the season's growth

will soon begin. When this is 2 inches or 3 inches high and a batch of roots are seen pushing out from the base, any necessary repotting may be carried out; but it should be borne in mind that annual disturbance is not advisable, every second or third year being sufficient if the watering is properly carried out. Ordinary flower-pots or fairly deep pans prove ideal receptacles, which ought to be filled one-third of their depth with drainage, over which is laid a thin layer of fibrous loam. A suitable rooting medium consists of good loam, fibrous peat and Osmunda fibre in equal parts, and to every bushel of the mixture add a 7-inch potful of finely-crushed potsherds. Having selected a plant requiring fresh rooting material, it will be found necessary to remove a large portion of the old soil, cutting away any decayed roots and all the useless back pseudo-bulbs, three behind each growing point being ample. When the plant is thus prepared, the old bulbs should be placed close to the rim of the pot, which will bring the new shoot near the centre, and so leave space for future development. Work the soil well between the roots, and press it moderately firm as the operation proceeds; but it must not be brought above the rim, as Lycastes enjoy a fair quantity of water throughout their growing period. A light position in the cool or intermediate house will suit them throughout the year. After repotting, keep the plants on the dry side till the roots are seen creeping to the edge, when the compost must be kept moist till the pseudo-bulb is fully matured; but afterwards less moisture is needed until the flower-scapes appear. As Lycastes come from fairly high altitudes, fresh air is an important factor in their successful cultivation; but in this country it must always be admitted with discretion, and strong currents of air passing over the plants cannot be tolerated. The chief subject of this note, viz., L. Skinneri, may be termed semi-deciduous, so no anxiety need be felt by any amateur when he notices some of the leaves showing signs of decay. SENTINEL.

SWEET-SCENTED GREENHOUSE RHODODENDRONS.

A DELICIOUS fragrance is a valuable asset in flowers of any kind, and this feature is very pronounced in the case of some of the greenhouse Rhododendrons, now in flower. Many of these are garden forms, and in nearly all cases they inherit the greater part of their fragrance from the Himalayan R. Edgeworthii, in which this feature is largely developed. This species, which is among the most tender of the Himalayan kinds, is very distinct from any of the others, the somewhat straggling branches being, especially when young, of a very woolly character, which feature also extends to the under sides of the leaves. In a state of Nature this often occurs as an epiphyte, finding its rooting medium in the vegetable *débris* collected in the forks of trees. The flowers, which are borne few in number in a loose head, are pure white, except for a yellow stain on the upper part of the interior. As with epiphytes in general, this Rhododendron dislikes a large mass of soil around the roots. Among the older and well-known garden forms that owe the greater part of their fragrance to R. Edgeworthii may be named Princess Alice, sesterianum, fragrantissimum and Lady Alice Fitzwilliam. An exceedingly free-flowering and sweet-scented race of Rhododendrons was raised by the late Mr. Isaac Davis of Ormskirk, noted as the original raiser of Rhododendron præcox. From the intercrossing of R. Edgeworthii and R. multiflorum (a garden form) Mr. Davis raised the following varieties, all of which are remarkable for their perfume: Countess of Derby, Countess of Sefton, Duchess of Sutherland, Lady Skelmersdale and Mrs. James Shawe. Up to the time of the death of Mr. Davis and the dispersal of his collection one could always purchase delightful little flowering plants of these varieties, but they are now very difficult to obtain from nurseries. This is a great pity, as most of them flower well in a smaller state than many other of the Edgeworthii hybrids. H. P.

PRIMULA MAXIMOWICZII, A NEW SPECIES WITH RED FLOWERS FROM NORTHERN CHINA.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Narcissus Mrs. Ernst H. Krelage.—A handsome white Ajax (trumpet) Daffodil, than which nothing so fine has been seen for some time. A well-nigh faultless flower of large size, even balance, lustrous white throughout save for the lemon yellow reflexing rim of the crown. From Messrs. Krelage and Son, Haarlem, Holland.

AWARDS OF MERIT.

Narcissus Europa.—This has a creamy white perianth and lemon yellow expanding crown. The flower is of exceptional size. From Messrs. W. T. Ware, Limited, Bath.

Narcissus Caedmon.—A handsome Poeticus variety of exceptional size and purity, the slightly-incurving segments of the perianth suggestive of the influence of recurvus or one of its kin. The red-rimmed, green-eyed crown renders the flower quite conspicuous. Shown by Messrs. Barr.

Narcissus St. Olaf.—A Leedsii form of almost opaque whiteness. Apart from its good balance, its substance and firmness of texture appeal to one at a glance. An all-white flower save for a touch of palest lemon in the crown. Exhibited by Messrs. Barr and Sons, Covent Garden, W.C. See illustration on page 204.

Primula Maximowiczii.—A remarkable novelty from North China and an acquisition withal. In the rosette of lanceolate leaves there is more than a suggestion of P. rosea, the stout scape rising therefrom to the height of 1 foot or thereabouts. Flowers cardinal red, drooping, with slightly-reflexing lobes, pedicellate, and produced in whorls, those on the lowest whorl most numerously disposed.

Androsace tibeticum. — The habit of the plant is somewhat similar to A. Chumbyii; the individual flowers are larger, however, and in their pink and white garb quite distinct. A beautiful alpine.

Hippeastrum (Amaryllis) Eurasian.—A handsome, well-formed flower of good substance and rich ruby crimson colour. The plant is of dwarf habit. The three foregoing novelties were shown by Messrs. James Veitch and Sons, Limited, Chelsea.

Auricula Suffragette.—The finely-formed, large, circular flowers are coloured a rich golden yellow, and have a well-defined white centre.

Primula viscosa Beauty (P. viscosa × Auricula Innocence).—The Auricula influence is not marked, the hybrid presenting all the characteristics of a good alpine Primrose. The predominant colour is violet purple; the eye is white. These were from Mr. James Douglas, Great Bookham, Surrey.

Helichrysum bellidoides.—An alpine "Everlasting" with white flower-heads abundantly produced on 3-inch-high, subsequently trailing plants. A novelty and a desirable plant withal. It is quite hardy, flowering naturally in May and June. From Mr. H. Hemsley, Crawley, Sussex.

GARDENING FOR BEGINNERS.

HOW TO GROW GOOD RUNNER BEANS.

Among amateurs there are few more popular or highly-appreciated vegetables than well-grown Runner Beans. Whether they are required solely for the dining-table or for the additional purpose of exhibiting, good fleshy, brittle pods are indispensable during the early autumn, when the Green Peas are on the wane. In not a few districts amateurs vie with each other in cultivating these Beans to well-nigh perfection; and it is with a view to providing the beginner in vegetable culture with some hints on growing these Beans that we publish this article.

Preparation of the Soil.—As the plants are voracious feeders and appreciate a cool, moist root-run, no pains should be spared in providing them with these essentials. The stout roots also penetrate the soil to a considerable depth, so that it well repays to break it up at least two spits deep. With the lower spit plenty of partially-decayed manure should be mixed. If the soil contains a preponderance of sand, cow or pig manure is best; but if clay is the principal element, that from horses is preferable, though in many cases the beginner has to use the best that is obtainable. With the top spit it is a good plan to mix some superphosphate or steamed bone-meal, a good handful of either to each yard run of row. In addition, if the soil is very stiff clay, some burnt earth, old potting soil, road scrapings from country roads, or, indeed, anything of a porous nature that will tend to render it more friable may be added, taking care to mix it well with the soil. If the ground can be prepared at once, it will be in good condition for sowing the seeds when the time comes.

Sowing the Seeds.—The time usually selected for sowing Runner Beans in the London district is the second week in May. The plants are very easily injured by frost; hence it is inadvisable to sow earlier than the time named. A system that is much in vogue in cold districts and where early crops are desired is to sow the seeds in pots or deep boxes and bring the plants along in a cold frame, transplanting them to their permanent quarters about the last week in May. Where such a system is adopted, it is highly essential that the plants be grown on as sturdily as possible, any attempt at forcing growth in a high temperature resulting in weak, attenuated plants that will never give good results. In sowing outdoors we always like to make a trench about three inches deep and fifteen inches wide. This facilitates watering during hot weather. The seeds should be sown in two rows in the trench, placing them 8 inches apart in the rows and leaving the rows about ten inches asunder. Two inches is about the right depth to sow.

RUNNER BEAN RED GIANT, A LONG-PODDED VARIETY OF HIGH QUALITY.

After-Treatment.—When the seedlings appear, steps must be taken to guard them against slugs, which are particularly fond of them. Apart from trapping the pests, which is the most satisfactory method of all, some fine coal-ashes, soot, or soot and lime may be sprinkled rather thickly round the plants, but the soot or lime must not touch the foliage. As soon as the plants begin to run, stout stakes, twine, or coarse netting must be placed for them to climb. Six feet is a reasonable height for the supports, though the plants will climb nearly twice that height if supports are available. The system of topping Runner Beans, as is done in the market gardens, is not one that we would advocate for garden cultivation; wherever a pod rests on the soil its flavour is impaired. Besides, a well-supported row of Runner Beans makes an excellent screen in the garden, a point that ought not to be lost sight of in selecting the site. During hot weather, and particularly when the plants commence to flower, copious supplies of water must be afforded, and once a week should be supplemented with weak liquid manure. In addition, an overhead syringing with clean water will prove highly beneficial and keep that most dreaded of all pests, red spider, at bay. When the plants reach the tops of their supports, the growing point of each should be nipped out, an operation that may have to be repeated several times.

Some Good Varieties.—There are a number of good varieties now obtainable, preference being given to those with long, fleshy pods. A good type of this section is shown in the accompanying illustration, the variety being Carter's Red Giant. With ordinary cultivation, on the lines suggested above, this variety last year produced a heavy crop of pods, most of which measured from 10 inches to 12 inches long. Hackwood Park Success, Sutton's Prizewinner and Best of All, Mammoth White, Painted Lady and Webb's New Exhibition are all varieties that one can thoroughly recommend. H.

SOWING MIGNONETTE.

We take this opportunity of reminding readers that this sweet-scented plant may still be sown to prolong the supply of bloom. There is much to be said in favour of growing Mignonette, as well as Violas, as a groundwork to beds of Roses, although the very keen rosarian might raise an objection to this procedure. Mignonette is a very accommodating subject, and may be used to furnish any odd corner in the garden. It seems hardly necessary to remind readers that slugs are very partial to the Mignonette in its seedling stage. These pests may be kept at bay by occasionally dusting soot around the seedlings.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Violets.—There are various systems employed for raising a stock of Violets for flowering during the winter and spring, but the simplest method is to plant out the young rooted side shoots on ground that has been well prepared some little time beforehand; this should be done as soon as the crop of bloom is over in the frames.

Cuttings put in during the autumn in a frame or under hand-lights should also be planted in the open ground at once, giving a fair distance between the plants. These latter will not need so much attention, should the weather be warm, as the first mentioned, owing to their being better rooted, and they certainly make larger plants.

Violas.—Named varieties propagated in the autumn should now be removed to their flowering quarters, either in the borders or, it may be, to furnish the beds under Roses. Though I do not recommend this for the sake of the Roses, one is obliged to admit that the Violas in many instances make a good show in such a position.

Plants for Summer Bedding.—Where Violas are intended to be used as a groundwork to other plants for summer bedding, they may have to remain some three or four weeks in the stock beds. Such plants should have the blooms removed, and when the young plants are inclined to be rather leggy, they may be pinched to induce a more bushy habit of growth. Needless to add, wherever Violas are wanted for a summer show here in the South, a fairly cool and moist position must be selected.

Labelling Plants.—No matter how careful one is to try to keep labels in their proper positions, it often happens that some get displaced or the writing obliterated, so that it is advisable to go round the borders as the various classes of plants come into bloom, labelling those that require it.

Plants Under Glass.

The Conservatory.—Just now the conservatory should be very gay with such plants as Cineraria, Schizanthus, Amaryllis and Calceolaria, and to prolong their flowering period a fair amount of shade must be given during bright sunlight.

Climbing Plants, such as Fuchsias, Habrothamnus, Tacsonias, Abutilons and Heliotropes, to be planted out later should be kept tied and thinned, according to the space they have to cover, and if on the roof, must be kept very carefully thinned, or plants underneath are very apt to suffer.

Primulas.—For an early batch of plants seeds may now be sown of P. sinensis, P. stellata, P. obconica and P. malacoides. From such a sowing they should flower in the autumn, but for spring blooming sowing a month or six weeks hence should be quite soon enough.

Maidenhair Ferns.—Batches of these that have not been repotted and that are growing freely should be fed fairly regularly either with liquid manure or artificial manure, giving this latter about once a week in small doses. If required for conservatory work, too much moisture must not be given, or the fronds will become soft, and there is danger of the small inside fronds damping where the plants are at all dense.

The Vegetable Garden.

Globe Artichokes.—To keep up the stock of this vegetable in a healthy condition it is advisable to break up and replant a portion of it each season, and the present is a very suitable time to do it. Suckers from the old plants should be planted in a deeply-cultivated and manured piece of ground in rows about four feet apart, allowing at least a yard between the plants; and, should the weather become dry soon after planting, it may be necessary to give a good watering to prevent undue flagging.

Asparagus.—This delicious vegetable should now be giving good strong heads, and wherever possible it is advisable to break these off rather than to cut them, as many young heads are often injured below the ground. Keep the surface of the soil clear of weeds, and give occasional dressings of Asparagus manure during showery weather.

Chicory.—This useful winter salad plant should be sown during the next few days, preferably as a continuation to the bed of Salsify and Scorzonera, and at about the same distance apart, thinning the plants to about nine inches apart when they are large enough to withstand the ravages of slugs.

Brassicas.—Another sowing of Brassicas should now be made, chiefly of late varieties of Kale, Coleworts, Savoys and Broccoli. These late batches of plants often prove more useful than the earlier ones, especially when they have to be planted after the ground is cleared of some of the early crops of Peas and other vegetables.

Fruits Under Glass.

Pot Vines.—The fruit on the earliest pot Vines will shortly commence colouring, and to secure evenness in colouring the plants should be carefully turned round occasionally; this, of course, if they are not allowed to root into the border. Water must not be stinted, though as colouring progresses rather less may be used about the house, and more ventilation may be given, though draughts from the front ventilators must be avoided.

Permanent Houses must be very carefully looked after in respect to ventilation, especially where the fruit is stoning. If a little air is left on all night, there is not much danger from scalding; but if shut up close and the house gets the full benefit of early morning sun, unless air is put on before the temperature rises unduly there is considerable danger, and many good bunches may be spoilt.

Hardy Fruits.

Peaches on Walls.—As soon as the shoots are forward enough, thinning should be commenced. It is not advisable to do this all at once—just a few growths from each shoot or branch, commencing by taking off the back shoots and a few on the under side, always bearing in mind that it is the basal shoots and perhaps one or two on the upper sides of the branches that are required to furnish the next season's fruiting wood. Go over the trees two or three times before reducing the shoots to the desired number.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Primula Sieboldii.—Those who have only seen individual plants or small patches of this lovely Primula can have no idea of the effect produced by masses of it. Here we have several beds in various shades—white, lilac and crimson. I would strongly recommend its extended cultivation. Give it a cool bottom and a light, rich soil, and it will increase rapidly by means of its creeping roots.

Perpetual-Flowering Carnations.—This accommodating class of Carnations has not been much drawn upon for the flower garden in Scotland yet, I believe; but I know one garden where the plants have been tried with success for the past two seasons. Those who have some year old plants of varieties like Britannia and Mrs. Burnett might do worse than try them in the open, and the present is a good time to plant.

Planting Gladioli.—Named florists' varieties which have been forwarded in pots should now be planted out. As indicated some weeks ago, Gladioli—this class especially—require liberal cultivation. A fairly rich, rather light, deeply-wrought soil is what they want, and, like all bulbous plants, they are impatient of stagnant moisture.

Dahlias.—Whether old tubers or young plants, these must now be got into cold frames and gradually hardened off. Give old tubers plenty of flaky leaf-mould to root in.

The Rose Garden.

Aphis.—This pest, like the poor, is always with us; happily, however, it is not difficult to deal with. Quassia Chips Extract, XL All Liquid Insecticide and Gishurst Compound are all effectual remedies; but the same result can be obtained by syringing with a solution of soft soap and water, at the rate of a good handful of soft soap to a bucketful of water. If the operation is repeated with clean water two hours later, no traces of the soft soap will remain.

Aerating the Soil.—This is a very important point in Rose cultivation, and the soil should be stirred at least once a fortnight by means of the Dutch hoe.

Plants Under Glass.

Begonias.—Those of the tuberous section will now be ready for their final shift, and the size of the pot must be regulated by the age and vigour of the plant. Afford ample drainage, use a fairly rich, porous soil, and do not pot too firmly. These plants resent coddling on the one hand and cold draughts on the other; they enjoy comparative shade.

Herbaceous Calceolarias.—As the flower-stems develop, staking must be attended to, using Bamboo tips or some other slender form of stake. As the blooms develop they must be shaded from bright sunshine, or the flowering period will be curtailed. If there is the least appearance of aphis, vaporise now.

Sowing Cinerarias.—The main batch of these should now be sown in a cool frame. Water the soil in the box or pan two hours or so previous to sowing. Cover the seeds lightly with a little fine soil and a sheet of glass, and shade lightly till germination takes place.

Fruits Under Glass.

Orchard Fruits.—The occupants of the orchard-house will now have all set their fruits and will require close attention. Thinning the fruits should be commenced early and spread over a week or two. It is more creditable to have a fair quantity of fruits of good size and quality than to have double the quantity of small, inferior fruits. Feeding is also very important, as the tree depends largely upon the nutriment thus given. Weak and frequent doses should be the rule. Potash must be given in some form if the best results are to be obtained. One other point to be remembered is that if the soil is even once allowed to become quite dry, the damage caused to the current crop is practically irreparable.

The Hardy Fruit Garden.

Spring Frosts.—In our fickle climate frosts frequently occur about this period, especially in low-lying gardens or those a considerable distance inland. On this account many a crop of fruit has been ruined. It is worth while to take the trouble on a frosty night to throw a piece of old netting over any tree of special value, and a break of Gooseberries or Currants might be saved by running one or two nets over them.

Removing Suckers.—Plum trees have a knack of sending up suckers from the stocks, and these should be promptly removed with the hoe or knife. Gooseberries also occasionally throw up suckers, and must be similarly dealt with.

The Vegetable Garden.

Kidney Beans.—A good sowing should now be made of some reliable main crop variety, such as Canadian Wonder, and for this type of Bean the drills should be about two feet apart. A little wood-ash sown into the drills will prove beneficial.

Runner Beans.—A sowing of this useful crop should now be made. I find it a good plan to sow two drills about two and a-half feet apart, and then allow about double the distance before the next pair of drills are drawn. It is unnecessary to get in between the two closer rows.

Leeks for Exhibition.—Leeks which have been raised under glass and potted up should now be fit for planting. A trench similar to a Celery trench should be prepared for them, and if some turfy soil, such as the parings of grass edgings, is available, so much the better. A layer of well-rotted farmyard manure should be placed in the bottom of the trench, and then the trench should be partly filled in with a mixture of the turf—chopped up, of course—rotted manure and bone-meal, with a little soot. Plant in a single row at 1 foot apart.

Early Potatoes.—As the foliage develops, a little dry earth should be drawn up to it to protect it from late frosts. The ground between the drills should also be loosened with the digging-fork prior to earthing up the crop.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE FIFTY BEST ALPINES.

Mr. Farrer, in his selection of fifty alpines, has picked out some gems, which could only be expected of him, and he also invites other selections. I now give my selection of fifty, and, as is usual among alpine-lovers, one is sure to differ from another. In the first place, Mr. Farrer has chosen the awl-leaved setacea group of Phloxes, which are very fine, especially in a showery season, but suffer more from drought than any other rock plants that I know, and unless thoroughly watered each day when in full bloom, would be completely burnt up in a day or so if bright, sunny weather prevailed, and further South would, I should think, be a difficult plant to manage in any but a showery season. It does not winter so well as a great many other plants. Mr. Farrer has also given four Geraniums, which are very fine, but he does not mention the gem of them all, G. tuberosum. These different lists, with their concise cultural hints, are of the greatest assistance to those who essay to grow alpines, about the cultural requirements and value of which there is evidently some considerable diversity of opinion. It would be surprising if there was not a wide difference of opinion as to the best fifty alpines, nothing but good, however, can result from the publication of these different ideas.

Name.	*Height. Inches.*	*Aspect*	*Soil.*	*Colour.*	*Flowering Period.*	*Method of Propagation.*
Adonis pyrenaica	12	Sun	Rich loam	Yellow	April - May	Seed or division
Anemone sulphurea	18	,,	Sandy loam	Sulphur	May - June	Seed
Androsace lanuginosa	—	,,	Light loam	Pink	May—Sept.	Cuttings
Anthemis Aizoon	6	,,	Sandy loam	White	June—Aug.	Division
Aquilegia glandulosa	12	Open	Rich soil	Blue & white	May	Seed
Arenaria balearica	1	Shade	Loam or grit	White	May—July	Division
A. montana grandiflora	6	Sun	Light loam	,,	May - June	Cuttings
Arnebia echioides	9	,,	Sandy loam	Yellow	May—Sept.	Cuttings or division
Aster alpinus	9	,,	Light loam	Violet	June	Division or seed
Atragene alpina	60	,,	Rich loam	Violet purple	June - July	——
Aubrietia Dr. Mules	4	,,	Sandy loam	Purple	April - May	Cuttings
Campanula G. F. Wilson	6	Open	Light loam	Violet	August	Division
C. muralis	6	,,	,,	,,	Aug. - Sept.	,,
Cyclamen Coum	4	Shade	Rich loam	Rose	Nov.—M'ch	Seeds
Cypripedium Calceolus	12	Half shade	Loam and peat	Brown and yellow	May - June	Division
*Cytisus kewensis	—	Sun	Sandy loam	Creamy yell'w	May - June	Seeds
Dianthus alpinus	4	,,	,,	Deep red	June - July	Seed or cuttings
Daphne Cneorum	12	,,	Loam and peat	Pink	July - Aug.	Cuttings
Draba aizoides	3	,,	Sandy loam	Yellow	March-April	Division
Dryas octopetala	6	,,	,,	White	July - Aug.	,,
Edraianthus serpyllifolius major	4	Half shade	,,	Purple	May—July	,,
Erinus alpinus carmineus	6	Sun	Light loam	Rosy purple	,,	Seeds
Gentiana acaulis	3	,,	Limy loam	Azure	M'ch—June	Division
G. verna	3	,,	,,	Blue	April - May	,,
Geranium tuberosum	6	,,	Rich loam	Purple	June	,,
Haberlea rhodopeusis	6	Shade	Peaty loam	Lilac purple	June - July	Seed or division
Hutchinsia alpina	4	Sun	Loam	White	April - May	Division
Hepatica angulosa	4	Sun or shade	Moist loam	Blue	Jan.—April	,,
Hypericum reptans	6	Sun	Sandy loam	Golden yellow	July - Aug.	,,
Lithospermum prostratum	3	,,	Limy loam	Deep blue	April—Oct.	Cuttings
Mertensia primuloides	6	Open	Loam	Plumbago blue	June - July	Division
Myosotis rupicola	4	Sun	Light loam	Deep blue	May—July	Seed
Oxalis enneaphylla	4	Shade	Sandy loam	White	May—Oct.	Division
Papaver alpinum	6	Sun	Light soil	White, gold, pink, orange	,,	Seed
Phlox canadensis Laphamii	9	,,	Light loam	Plumbago blue	May—July	Division or cuttings
P. reptans	6	,,	,,	Rose	,,	,, ,,
Polygala Chamæbuxus purpurea	6	Half shade	Peat and loam	Purple and yellow	Oct.—May	Division
Potentilla nitida	6	Sun	Sandy loam	Rose pink	May—Sept.	——
Primula marginata	4	Open	Limy loam	Lavend'r blue	April - May	Division
P. clusiana	5	Open or sun	Peaty loam	Rich rose	March-April	Seed or division
Ramondia pyrenaica	4	Half shade	Peaty soil	Violet purple	May—July	,, ,,
Saponaria ocymoides splendidissima	—	Sun	Any soil	Rosy crimson	Summer	Division
Saxifraga burseriana major	4	Partial shade	Loam and grit	White	Feb.-March	Seed or division
S. pyramidalis	24	,,	,,	White, sp'tt'd crimson	June-July	Division
S. longifolia	18	,,	,,	White	May - June	,,
S. lingulata lantoscana	9	Shade	Rich loam	,,	,,	,,
S. bathoniensis	4	Half shade	Loam and grit	Red	April—June	,,
Sempervivum arachnoideum	6	Sun	Cow-manure and clay	Rose	June—Aug.	,,
Silene Schafta	6	,,	Sandy loam and grit	Purplish rose	May - June	,,
Veronica rupestris	4	Half shade	Sandy loam	Blue	June - July	Seed or division

* Prostrate.

The Gardens, Ashby St. Ledgers, Rugby. G. F. Hyland.

THE FLOWER GARDEN.

SWEET PEA NOTES.

Planting Out.—Generally speaking, there is not the slightest need to urge Sweet Pea growers to get the plants into their permanent positions; on the contrary, the principal trouble is to persuade them to exercise reasonable patience in the matter; but there are always a few laggards, and it is to these that this brief paragraph is specially directed. Those who have plants still in pots or boxes in the greenhouse, frame, or standing out of doors must plant them immediately. It is, of course, most important when the plants are in pots, because they will inevitably become rootbound; and while one has not the slightest objection to shaking out the roots, one would not desire to tear them all to pieces in the process. Besides that, the roots are certain to harden, and therefore an undesirable check to progress follows upon the planting. The popular objection to sowing Sweet Peas indoors with a view to transplantation is that they cease growing entirely for some days when put in their flowering quarters; but this is not the case when proper care is taken in handling the roots and in choosing a time when the soil is in an ideal state for such an important operation. The holes must be exceptionally deep and, needless to say, the soil must be fertile.

Late Sowing.—It is not uncommon, for reasons over which the owner of a garden desiring to grow Sweet Peas has no control, to be unable to sow under cover in the autumn or the spring, or out of doors at the middle of March, which is usually accepted as somewhere near the best time in the South of England. Someone with a mania for early sowing tells him that it is useless to start at the end of April, as the plants will never proceed so satisfactorily as to ensure a plenteous crop of good flowers. Take no notice of such a man. If it has been impossible to sow before the present date, sow as soon afterwards as can be managed. It is, of course, necessary that the soil shall be in perfect mechanical condition, and that there shall be an abundant supply of readily available food, not, for preference, in the form of natural manure near the roots. Place the seeds not less than 3 inches apart on a firm, level base, and cover the dark brown and black seeds with half an inch of mould, but simply press the white and spotted seeds into the surface. When the time arrives for thinning, remove plants as may be necessary to leave the distance 6 inches. This will not conduce to the production of blooms with stems a couple of feet in length; but that will not matter, as the object of culture is not exhibition blooms, but plenty for home decoration.

Pinching Laterals.—The man who must be there will pinch out every lateral directly he can see it, and when this is done, the next best thing is to let the plants flower, or the result will be coarseness in an unenviable degree. If blooming is permitted until a given date before a show, the tendency to grossness will have received some check, and the stems will be of splendid substance, the blooms of fine size and form and artistically set, instead of being on the floppy side and widely separated on the stalk. Some pinching of laterals is always necessary, even when the primary idea is plenty of flowers; but it should not be carried to an unreasonable extent.

Training the Plants.—The grower for exhibition shows much better judgment than the man who cultivates for immense quantities of blossoms, because the latter is usually inclined to let the plants grow anyhow and anywhere, provided they go up the supports. This is not wise. Although one must, of course, give more time to the plants when tying is done, it pays over and over again. Vigorous shoots do not always go in the direction that will favour or ensure the most gratifying results; but when the grower takes the trouble to train them, he sees to it that they go where he wants them to go. No matter whether the plants are grown to one, two, or three stems—few people let more than the last number remain nowadays—tying must be done in loose, secure ligatures, the most scrupulous care being exercised not to draw the growths in so closely that a formal appearance is given to the individual plants and to the rows.

THE EDITOR'S TABLE.

Beautiful Flowers from Berkhamsted.—A box of delightful flowers, comprising Blue Primroses, Arctotis aureola and Rose Fortune's Yellow, has been sent to us by Mr. A. G. Gentle, gardener to Mrs. E. H. Denison, Little Gaddesden, Berkhamsted, Herts. The flowers reflect the highest credit upon the cultivator, while we have nothing but praise for the admirable strain of Blue Primroses that were sent. Mr. Gentle sends the following note with the flowers: "I am sending for your table a few of each of the many different

shades of Blue Primroses that are now in flower in these gardens. I also enclose a few flowers of that beautiful greenhouse plant Arctotis aureola, which I am surprised is not more often grown. It is free-flowering, and at this time of the year very useful for decoration, as it lasts a long time in water. The few Fortune's Yellow Roses are nearly the last. I have cut over seven hundred blooms off the one tree this year. We used to think it good to get 600, but these last two years the number has been over seven hundred. I planted the tree about twelve years ago. I think you will agree that the colour of the Roses is very good."

Carnations from Guernsey.—Mr. C. F. A. van der Sluys, the well-known Carnation-grower of Ramée, Guernsey, sends flowers of Perpetual-flowering and Perpetual Malmaison Carnations. These include many of the best and latest varieties, and all the blooms show signs of good cultivation. The value of these flowers for cutting can scarcely be over-estimated.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ANEMONES AND RANUNCULUSES UNDER YEW (*Miss M.*).—The plants may flower in the position once, though much would depend upon the top spread of the branches of the tree and the dryness of the situation. In any case it would not be well to plant within 6 feet of the bole of the tree, as the growth will of necessity become drawn and, of course, will favour the direction of light. If you are contemplating planting this season, the work should be done at once.

GODETIAS AND CLARKIAS (*Dr. H. S.*).—If the soil is light and well drained and the plants have responded to the earlier pricking out or transplanting, they would do so again if taken in hand early. Where the soil is sandy or stony, sowing in the open about mid-March gives excellent results. In your own case, where the soil is of a retentive nature, a good way would be to raise seedlings in boxes or pans, prick three or four into a small pot, and subsequently plant these when required. We are not sure what Centaureas you are referring to. The forms of C. cyaneus are best sown in the open. Those of the Sweet Sultan class (C. moschata) should be sown three or four seeds in a 4-inch pot, and transplanted bodily when of sufficient size.

PENTSTEMONS AND OTHER PLANTS (*St. Mary's Church*).—The Pentstemon is a true perennial, without doubt, though the florists' varieties of it are not hardy in all districts. Those of the Gem class, Newbury Gem and others, are hardier. If you are growing the former, the best results would be secured by sowing seeds in warmth in January, or by rooting cuttings in autumn and wintering in a frame or greenhouse. Forget-me-nots, if cut back after flowering, should, with the lapse of a week or two, be divided and planted in lines. They make nice tufts for autumn planting when so treated. These things are also easily raised from seeds. The border Carnation should be layered in July. In a few instances the layered plants may be allowed to remain to flower without replanting, though this method cannot be generally recommended. Potting up the layers in September or replanting them is the best course to pursue.

THE GARDEN GENTIANELLA (*Will Bruce*).—It is difficult to lay down hard-and-fast rules in respect to this fine plant, and we know of instances where it thrives and flowers well in cool, loamy clay with little sand, in light, sandy loams, and in peaty soils. Generally speaking, it grows and flowers most freely in light, sandy loams which are deficient in lime, though it is known to do well in limestone soils, also in light, loamy soils over sand, and in gravel. The plant rarely gives much trouble and, by planting moderately small pieces in October or between that and February, success may be assured. To the light soil well-decayed leaf-mould may be added. It is important that firm planting be indulged in, and that the plant be inserted low down. In parts of Ireland the plant revels in peaty soils and the moisture-laden atmosphere. Extremes of dryness should be studiously avoided. It appears also to have a fondness for the cooling influence of old red sandstone, and some of this, if at hand, might be finely pulverised and mixed with soils of a more holding nature.

TREES AND SHRUBS.

BEAUTIFYING PARKLAND (*E. M. M.*)—The best thing to do with your park would be to introduce a number of groups of irregular shape of Gorse, Broom, Thorns, common Juniper, various species of Rosa, such as R. canina, R. rubiginosa, R. rugosa and R. arvensis, Sloe, common Berberis and Brambles, with a few groups and isolated specimens of common trees, such as Beech, Oak, Elm and Hornbeam. The remainder of the park might then be mown for hay, as at present, and pastured later on. It would be necessary to protect the shrubs and trees with low fences until they were large enough to look after themselves, both on account of hares and cattle. We do not think you would find it a satisfactory method of dealing with the park to stop mowing altogether, for the grass would become very coarse, especially if there were no animals to eat it off. By forming natural-looking groups of trees and shrubs and protecting them for a time, the park ought gradually to assume the appearance desired. Bracken may also be tried, but it is a very difficult plant to establish in many places, although such a pest elsewhere. Here and there the groups of shrubs and Bracken should be of considerable size.

THE GREENHOUSE.

UNCOMMON GREENHOUSE FLOWERS (*W. B.*).—Uncommon subjects that might suit your purpose are Amphicome Emodii, Clianthus puniceus albus, Erlangea tomentosa, Gerbera (new hybrids), Tecoma Smithii and Rehmannia angulata Pink Perfection.

SMILAX TURNING YELLOW (*Nil*).—There is nothing on the foliage of the Smilax to account for the yellowing except a few green flies. They do not seem to be sufficiently numerous to have caused it. There may possibly be some scale insect lower down than the pieces you send, otherwise we think the trouble is the result of some error in cultivation.

BELLADONNA LILY (*P.*). – Amaryllis Belladonna flowers naturally in the autumn, and then commences to grow directly afterwards. We can scarcely understand your bulbs being dormant now unless they are imported ones. The rational way to treat the Belladonna Lily when it is grown in pots is, as soon as the blossoms are over, to give it a good position in a frame or cool house and keep it growing during the winter. Towards the end of spring or in early summer it will go to rest, when the pot should be fully exposed to the sun and the soil kept almost dry. By the end of August or thereabouts signs of growth will be apparent, the flower-spike being the first to show, and then water must be given. As yours is still dormant, we should advise it being moderately watered, in order to start it into growth as quickly as possible. When the pots are well furnished with roots, it may be fed. It will, in all probability, be late in dying down, but in any case a certain amount of rest is essential. The after-treatment must be as advised above.

CULTIVATION OF CASSIA (*Captain R. H. V.*).—The Cassia referred to is, in all probability, C. corymbosa, which requires the protection of a greenhouse. It is a free-growing shrub, whose pinnate leaves are of a deep green colour, and the golden, Pea-shaped blossoms are borne in summer and autumn. It forms a handsome bush in the conservatory, is well suited for training to the back wall of a greenhouse, providing it gets plenty of light, and may be sometimes seen during the summer planted out in parks and gardens in the beds of large miscellaneous subjects which are now so generally popular. Its cultural requirements are not at all exacting, as it may be given much the same treatment as a Fuchsia, except that, being evergreen, it must not be kept dry in the winter. At that season it needs a minimum temperature of 45° to 50°. Ordinary potting compost, such as a mixture of loam, peat, or leaf-mould and sand, will suit it well. When old it flowers profusely, but seedling plants need to attain a fair size before they bloom freely. It may be placed out of doors during the summer months.

GLOXINIAS AND CYCLAMEN (*O. B.*).—After the Gloxinias have done blooming they must be treated as before till the leaves die down and the plants go to rest. Yours will, in all probability, produce a few blooms for some time yet. Then, as they die down in the autumn, keep them quite dry and in a structure where a minimum temperature of 45° to 50° is maintained. Early in the year they may be shaken quite clear of the old soil and repotted in some good compost. Little water will be needed till they start into growth. Like the Gloxinias, the Cyclamen must be treated as before till the leaves die down, which will probably be towards the end of May or early in June. Then keep them dry for a month or six weeks, after which the corms must be shaken quite clear of the old soil and repotted in a mixture of loam, leaf-mould, silver sand and, if available, a little brick rubble. After they are potted an occasional damping overhead will be beneficial, but do not give too much water at the roots till the young leaves make their appearance. A frame in a partially-shaded position is the best for them at this season. As the plants grow, plenty of air will be needed, and they are greatly benefited by exposure to light rain and the night dews which often prevail in August. By the middle of September they should have formed good plants ready to be taken into the greenhouse.

FRUIT GARDEN.

RED SPIDER ON VINES (*M. O. K.*).—It is early for red spider to appear on Vines, and if it is not immediately destroyed it will do no end of mischief to your Vines, the foliage being now so soft and tender. To kill red spider with XL All, or with any other fumigator, it is necessary to apply a strong dose, unfortunately too strong for the Vine foliage to stand in its present soft and immature condition. There is nothing else for it, then, but to sponge the affected foliage carefully over with tepid rain-water and Calvert's Soft Soap, using not more than a wineglassful of soap to a gallon of water. It is tedious work, but if you will stick to it, it will soon be done. Keep a sharp look-out afterwards and apply the same remedy the moment another spider is seen, and you will get rid of the spiders in time.

INSECTICIDE FOR APPLE TREES (*C. D.*).—You do not say what pests you aim at destroying, and, of course, that is a very important thing, for indiscriminate spraying is an evil rather than a good. Fungi, sucking insects, such as green flies and scale insects, and caterpillars all need different kinds of treatment. For sucking insects probably Quassia and soft soap will serve best, and it may be made by gently boiling 1lb. of Quassia chips in water for a couple of hours. Dissolve half a pound of soft soap in warm water and stir in the strained Quassia extract, adding sufficient water to make up ten gallons. For caterpillars and other biting insects arsenate of lead paste is best, and it should be used in the proportions directed on the tins. Nicotine washes are also of great use against green flies and so on, and should be bought ready-made.

SMALL PEAR TREE PROFUSELY BLOOMED (*A. L.*).—A small tree like this so heavily laden with fruit already set is deserving of all the care you can give it. As you say, the tree will cast off some of the surplus fruit itself later on, but it will have no occasion to do so if you in the meantime will gradually ease it of the burden it is unable to bear. Go over the tree carefully as soon as the fruit is set, and in the first place cut out all the badly-formed and small fruit in each bunch, leaving only five fruits, and then in about another fortnight go over the tree again, still cutting out the smallest of the fruits until there are only two left on each branch. Later still, when all danger of any fruit falling is past, you should reduce the number of fruits in a bunch to one, that, of course, being the finest. You will then have a good crop of fine fruit. Give the tree a good soaking of weak manure-water from the stable or cow-yard immediately, and mulch the surface of the soil over its roots with a dressing of rotten manure 3 inches deep.

MISCELLANEOUS.

QUASSIA EXTRACT (*North Wales*).—This is obtainable both as a powder and in a liquid form. That which the writer of the article referred to uses is Bentley's Extract of Quassia, a liquid. A 3-inch potful is sufficient for three and a-half to four gallons of water.

TO KILL WORMS IN POTS (*Nil*).—Get about half an ounce of carbon bisulphide, make a hole in the soil of the pot, pour in the carbon bisulphide, and immediately close the hole. This will cause the death of the worms without injury to the plant, so long as the liquid does not come in contact with any large roots.

LARVÆ FOR INSPECTION (*Hawick*).—The two grubs reached us very dried up, but so far as we can tell they appear to be the larvæ of the St. Mark's fly, one of them more advanced than the other. These grubs feed for the most part on decaying vegetable matter, but when they are abundant and food scarce they may attack the roots of plants. Carbon bisulphide injected into the soil at the rate of about half an ounce to the square yard, pouring boiling water on the groups of them, or the use of some soil fumigant round any particular plant, will do a good deal towards checking their attacks.

NAMES OF PLANTS.—*No Name.*—1, Centranthus ruber; 2, Pilea muscosa; 3, Saxifraga canaliculata; 4, Dicentra formosa; 5, no specimen; 6, Streptosolen Jamesonii; 7, Arenaria montana.——*W. G.*—1, Lycaste species; 2, Dendrobium species. Specimens too imperfect to identify correctly.——*Stranger.*—1, Aucuba japonica variegata; 2, A. japonica; 3, Elæagnus pungens; 4, Laurus nobilis; 5, Ilex Aquifolium variegatum; 6, Quercus Ilex; 7, Euonymus japonicus; 8, Prunus Laurocerasus; 9, Viburnum Tinus; 10, Euonymus japonicus variegatus; 11, Cotoneaster horizontalis; 12, Veronica Traversii; 13, Sciadopitys verticillata; 14, Cytisus species; 15, Forsythia suspensa; 16, Muehlenbeckia varians; 17, Magnolia stellata; 18, Prunus serrulata; 19, Mesembryanthemum species; 20, Hypericum species; 21, Jasminum officinale; 22, Olearia Haastii; 23, Pyrus floribunda; 24, Santolina Chamæcyparissus; 25, Artemisia Abrotanum; 26, Alyssum saxatile; 27, Epimedium species; 28, Arabis albida; 29, Centaurea montana; 30, Doronicum plantagineum; 31, Galega officinalis; 32, Muscaria conicum; 33, Polygonum cuspidatum; 35, Iris fœtidissima variegata; 34 and 36, specimens too scrappy.——*Crinum.*—The flower sent is that of an Amaryllis seedling of no special merit. The cross has not been effected —— *George Dean.* — The Butcher's Broom (Ruscus aculeatus).

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C

NOTES OF THE WEEK.

Transplanting Red-hot Pokers.—The best time for dividing or transplanting Kniphofias or Red-hot Pokers is this month, when the plants are getting active both at the roots and leaves. Should the weather be dry, a good watering must be given. A good mulching of rotten manure should also be given annually at this time of the year to established plants.

Primroses and Polyanthuses.—We regret that the article on this subject, which appeared on page 195 of our issue for April 19, should have given offence to some of our readers. The sole reason the writer had for referring to the Primrose League was to pay some slight tribute to the keen interest taken by the late Lady Dorothy Nevill in horticulture. In doing so a sentence that has been taken as political inadvertently appeared.

Prunus triloba After Flowering.—Now that the blossoms of this beautiful early-flowering shrub are over, the shoots that have recently flowered should be pruned back to within 1 inch or 2 inches of their base, leaving only two or three eyes. As in all cases of pruning, the weaker shoots should be cut back hardest to encourage stronger growth on them. A young tree would not need cutting back to the extent that an older plant would until it had covered its allotted space.

Rapid Growth of Bamboos.—When visiting the gardens at Trebah, Cornwall, a week or two ago, the head-gardener, Mr. Thomas, informed us that last year he measured the rate of growth of a large stem of Bambusa or Phyllostachys Quilioi. In fourteen days this stem attained a height of 11 feet 10 inches, or an average of slightly more than ten inches per day. The plant, which is growing in the open, is a very large one, and some of the stems measure over five inches in circumference.

Delayed Flowering of Amaryllis Belladonna. At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Odell referred to the failure of Amaryllis Belladonna to produce flowers in the past autumn, and stated that the aborted flowers were now being developed. Mr. Worsley stated that the same thing had happened in his garden after wet summers, and it was considered by the committee that the conditions obtaining in such a season as the last militated against the proper development of the flowers, though they might begin to form.

Magnolia stellata and Muscari Heavenly Blue.—The combination of these two plants results in a very attractive feature, for the glistening white flowers of the Magnolia are at their best during the time when the rich blue Muscari flowers are expanded. Moreover, there is no objectionable feature in the combination, for the bulbs do not rob the shrubs to any appreciable extent, while the Muscari leaves are not vigorous enough to interfere with the Magnolia branches. M. stellata should be planted in moderately thin groups in a soil composed principally of loam, but containing a little peat.

A Showy Crab Apple.—Those who do not already possess Pyrus niedzwetzkyana would do well to add it to their collections of flowering trees, for it is distinct from any other kind of Pyrus, and the colour of the flowers is different from that of any other flowering tree. In habit very like that of an ordinary Apple tree, it blossoms quite as freely as any of the Crabs, the individual flowers being as large as those of the more showy kinds of P. Malus. The colour is a curious reddish purple, and branches, roots and leaves are all stained with the same shade.

Board of Agriculture and Fruit-Growers.—It is a good sign to find that fruit-growing and other branches of commercial horticulture are at last receiving some attention from the Board of Agriculture. Mr. Walter Runciman, President of the Board, at a gathering of fruit-growers in the Pershore district last week, stated that he advocated the formation of a fruit institute, and promised assistance from the Board, who would put down £3 for every £1 put down by the County Council in bricks and mortar, presumably in the shape of cottages and necessary buildings; and £2 for every £1 provided by the County Council for running expenses.

An Important Fruit Blossom Discovery.—At the National Fruit and Cider Institute, Long Ashton, near Bristol, Professor B. T. P. Barker has, we understand, made a most important discovery relating to the damage of fruit blossom in spring. It appears that a great deal of the damage usually attributed to frost is due to a bacillus, which causes the flowers to blacken and fall off. This bacillus, the name of which is not yet available, has been isolated in the laboratory and is found to increase very rapidly. It will be remembered that Professor Houston, writing in our issue of March 8, page 121, stated that a good deal of the damage to Apple blossom usually attributed to spring frosts was due to the attacks of the Apple-sucker, or Psylla.

A Hint for Raisers of Seedling Daffodils.—At the discussion on the cultivation of Daffodils held on the evening of the opening day of the Midland Daffodil Society's Show last week, the Rev. G. H. Engleheart gave many useful hints to the raisers of seedlings. The most interesting of these was that he believed in transplanting one year old bulbs from the seed-boxes into other boxes 4 inches deep, giving them good soil, instead of allowing them to remain in the seedling-boxes two years, as is usually done. By transplanting he considered he had saved a year of the time usually taken by seedling bulbs to reach flowering size. To get Daffodil seed to germinate freely Mr. Engleheart stated it should be sown as soon as ripe.

CORRESPONDENCE.

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

Arrangements at the London Daffodil Show.—With reference to your footnote about Mr. Wright's unfortunate illness on page 205 of last week's issue, I do not see how his being present at the Royal Horticultural Society's Hall would have altered the fact that it was let on the Saturday before the show and that there were no vases available and no tables on which competitors might have arranged their flowers in comfort.—JOSEPH JACOB.

Failure of Anemone fulgens.—In reference to the recent correspondence on this subject, seven years ago I planted some in a bed facing south, in a good, rich, light soil. They bloomed well the first year, the second year not so well, and by degrees they almost disappeared. Last year there were several plants blooming in the steep grass bank below the bed, which bank is hard and sun-baked in summer. This year there are more plants in the bank and more blooms, but the latter are rather small. There is still one plant in the original bed with five blooms.—PENWARNE.

Rhododendron Grievei.—This charming little Rhododendron, which has been almost lost to cultivation, was shown in the exhibit of Messrs. Cunningham, Fraser and Co., Comely Bank Nurseries, at the recent Edinburgh Spring Show. It was much noticed by those interested in the dwarfer shrubs, and is extremely beautiful with its pinkish white flowers. As shown, the plants were only a few inches high, and were giving good trusses of large and beautiful flowers. The flowers are not the sole attraction of the plant, as Mr. James Grieve, who happened to be at hand when the writer was examining the Rhododendron, informed him that the leaves were fragrant, and an olfactory test showed that the foliage is of a most agreeable fragrance. Mr. Grieve also gave the information that he raised this plant while with the firm of Messrs. Dicksons and Co., the parentage being dahuricum × ciliatum. It partakes largely of R. ciliatum in flower. Mr. Grieve stated that it had been almost lost to cultivation; but it is to be expected that its beauty will cause R. Grievei to be largely propagated and cultivated. It is quite hardy and an excellent rock garden shrub.—S. ARNOTT.

Growing Tulips in Grass.—Let me offer my small contribution to Mr. Jacob's problem of Tulips in grass page 189. For a long time I also was daunted by the superstition that they would flower once, indeed, but never again. At last, however, I was rash and planted some Golden Crowns in very poor soil on a steep slope in very coarse grass that afterwards becomes hay. They have now been there some six years. In the course of that time they have so broken up that each original bulb is now represented by eight or ten great broad, grey leaves. But each bulb mass (or nine out of ten) is so strong as to send up yearly at least one bloom, if not two, which amply justifies the purpose of their planting. Emboldened by this, I myself inserted a lot of Gesnerianas into lifeless soil on a Kentish lawn bank four years ago, and these also still bloom, though not very richly, nor have they broken into the masses of my Golden Crowns. At the same time, one blossom in grass is worth ten in a border for decorative effect. The Tulip never looks so superb and so characteristic as in a wild green setting, and I cannot but feel that even such partial profit as I have pointed out is quite sufficient encouragement for a far wider use of the greater Tulips in grass. Even some ugly Darwins of last year are now again coming up in bloom through coarse herbage.—REGINALD FARRER.

How to Grow Saxifraga burseriana.—With reference to the note on the above subject by "Alpinist," on page 191, April 19 issue, it is not for me to champion Mr. Farrer, but I do not think "Alpinist" has treated him quite fairly. "My Rock Garden" was published much earlier than "The Rock Garden," and apparently, when the former was written, the author had not acquired so wide an experience of the plants growing under natural conditions, and it is evident that his observation of plants in their native habitat, in circumstances such as those mentioned in "Among the Hills" (page 267), led him to recommend a different treatment. However, I do not think that "Alpinist" quite realises that, as regards the requirements of a plant in his own particular garden, he must buy his own experience. The most a writer can do for him is to tell him of the plant's requirements in Nature, and then of his (the writer's) own experiences. I will give "Alpinist" my own experience for what it is worth. I have S. burseriana and its many forms growing all over my rock garden in sun and shade facing east, south-east and south-west. My rainfall is somewhere about forty-six inches in the year, and the plants have to shift for themselves in dry weather (when they get it). The more sun they get here, the better they flower; but in dry summers, like that of 1911, those in very open exposures suffered badly. I should be interested to learn whether Mr. Clarence Elliott's plants in a south-west exposure in Herts were out on rockwork, dependent on the heavens for their moisture, or were artificially watered on rockwork or in frames. If one could keep them moist enough in dry spells, I do not think they would suffer here, even in due south exposures; but for the average rock gardener hand-watering on a large scale is not possible, and personally I would not care to risk the burserianas in very open exposures in a climate drier than my own. Wherever I grow them they like light, limey soil and plenty of chips on the surface.—MURRAY HORNIBROOK, *Knapton, Abbey Leix, Queen's County.*

COPRINUS COMATUS, THE FUNGUS THAT SECRETES THE SELF-DESTROYING FERMENT USED AS A CURE IN SILVER-LEAF DISEASE. (*See page* 215.)

—— I bought a small plant of Saxifraga burseriana major last year and put it into the hottest and driest corner of my small rock garden. This year it had over sixty flowers on it, nearly all being in flower at the same time. I got S. b. minor also, and put that about six inches from the other. In December it was looking so bad that I transplanted it to the shady side of a new rock garden I have just made. It seemed to get better from the moment I transplanted it, and has just finished flowering. It had twelve nice flowers. The petals of these flowers are deeply serrated. Of course, last year was so sunless that that may account for S. b. major doing so well in a south-west aspect. Perhaps my experience may be of interest to "Alpinist."—J. C. D.

—— A good deal has been written about the above and as to the best aspect to grow it in. Here in Cheshire I have grown it for many years on the south side of my rockwork in full sun, but in the summer of 1911, which was very hot and dry, the plants were much burnt by the sun, and in some instances completely killed. Some other of the Saxifrages suffered in the same way. The summer of 1911 was very unusual, and on the whole I consider a southern aspect the best for Saxifraga burseriana, at all events in Cheshire. In a very hot, dry county, as in some parts of the South of England, possibly not a fully south aspect would be best.—GEORGE DIXON, *Astle.*

—— If "Alpinist," who writes in your issue of April 19, will plant Saxifraga burseriana in a soil composed of two-thirds lime rubble or lime chips and one-third sandy loam, and place the plants with a southerly or south-westerly exposure, with a rock behind them under which their roots will get the evenness of moisture that they like, he will have no difficulty in growing and blooming this Saxifrage. Of course, I assume that the rock garden "Alpinist" has is thoroughly drained to start with. I emphasise the importance of the rock behind, as of two large clumps that I had with the same south-west aspect, the one that did not have a rock behind it showed signs of shrivelling up, whereas the other retains the bluish green foliage, which is a sure sign of health. I have grown this and other Kabschia Saxifrages for many years, and my plants of burseriana are six or seven years old.—S. H., *Hertfordshire.*

[We are compelled to hold over other interesting notes on this subject.—ED.]

Erigeron Asa Gray.—This is almost certainly a hybrid Erigeron, though it seems difficult to trace its origin or to say with certainty what its precise parents were. One would believe, however, from the colour of the flowers that it has some of the "blood" of Erigeron aurantiacus in its cells. It is a very handsome plant, with flowers which some call apricot yellow and others a kind of biscuit colour. It is about a foot high and makes an excellent border plant. It is not the same as the variety of E. salsuginosus which is called "salsuginosus of Asa Gray."—S. A.

Azara microphylla at Stranraer.—There is an exceedingly fine plant of Azara microphylla in the deeply-interesting garden of Mr. Carrick-Buchanan, Corsewall, Stranraer, a place where many reputedly tender shrubs thrive apace. The Azara is generally hardy in South-West Scotland, but the specimen at Corsewall is exceptionally fine on a high wall surrounding the kitchen gardens. Speaking from recollection only of the plant as seen last year, I cannot venture to give the approximate height, but it is one of the finest plants of Azara which I have seen, save in Ireland. Its shining green foliage makes a good plant most attractive. It does not appear to fruit well in South-West Scotland, and in a considerable number of gardens it even fails to flower. The non-flowering is of less consequence, seeing that the blooms are small. The agreeable aroma they exhale is, however, welcome in spring. Probably late frosts have much to do with the non-flowering in many local gardens.—S. ARNOTT.

Primula viscosa Hybrids.—There seem now a goodly number of hybrids of P. viscosa in existence, and in addition to the two named, Jean Douglas and Othello, referred to on page 187, and a few other named varieties, a considerable number as yet unnamed are in cultivation. It is to be hoped that these may be sent to the Royal Horticultural Society's Gardens to be tested together and the too-much-alike varieties eliminated by a competent authority, such as the floral committee. I have recently seen a considerable number of these new seedlings in flower, and one must say that there is too much similarity among them. Then, again, the use of some of the alpine Auriculas as one of the parents has given some of them too great a resemblance to the Auricula, and several of the seedlings which it is intended to name are little different from a poor alpine Auricula. Yet there are some excellent flowers among these viscosa hybrids, and there is no reason why there should not be a number of other good viscosa hybrids produced.—AN OLD ALPINIST.

Zonal Pelargonium Maxime Kovalevsky.—This distinct tinted variety of Zonal Pelargonium, which is referred to on page 179, issue April 12, is a good kind for pot culture, either for summer or winter blooming. Besides this, it is very effective as a bedding plant, and in this way it formed a very attractive feature in the gardens at Hampton Court last summer. Owing to its distinct shade, a mass of this Pelargonium was at a little distance somewhat of a puzzle, the tone of colour being so different from any of the others. It is one of the many good things that we owe to M. Lemoine of Nancy, France, as it was distributed from that establishment in the spring of 1906, and was given an award of merit by the Royal Horticultural Society five years later. It is by no means the only variety that was sent out long before its merits gained recognition, as the universally-grown Paul Crampel was first put into commerce by M. Lemoine in 1892 (one year before Begonia Gloire de Lorraine), but it was about a decade after that when it became popular. Much the same applies to that well-known market variety with semi-double flowers, F. P. Raspail, which I first received from M. Lemoine in 1878, the year of its distribution. It was long after that before it was taken up by some of the market-growers, when it was at once much sought after. Not only were these three standard varieties all raised by M. Lemoine, but the Ivy-leaved variety Galilée, which is perhaps grown more than any other, also came from the same source.—H. P.

PRIZES FOR THE BEST ROCK GARDENS.

To further stimulate the interest that is being taken in rock gardens, the Proprietors of THE GARDEN offer the following prizes for three photographs of a rock garden, or portions of a rock garden:

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed P.O.P. prints must be sent, and each should be on a mount with not more than half an inch margin.
5. All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in for competition will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed for the purpose, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken to return them uninjured.
7. The Proprietors of THE GARDEN reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

FORTHCOMING EVENTS.

May 6.—Scottish Horticultural Association's Meeting. Forest Gate Chrysanthemum Society's Meeting.

May 10.—British Gardeners' Association's Meeting at Birmingham.

May 12.—United Horticultural Benefit and Provident Society's Meeting. British Gardeners' Association's Annual General Meeting at Birmingham.

May 14.—Royal Horticultural Society's Meeting and Tulip Show. East Anglian Horticultural Club's Meeting.

May 20.—Royal Horticultural Society's Spring Flower Show at the Royal Hospital Gardens, Chelsea (three days).

May 21.—National Tulip Society's Show at Chelsea (two days). Devon County Show at Barnstaple (three days).

SCIENCE IN RELATION TO HORTICULTURE.

TREATMENT OF DISEASE IN PLANTS.

TWO methods may be employed in the treatment of disease, one preventive and the other curative. So far as general crops are concerned, prevention is the only practical method. Cures can only be attempted in individual cases, and then only when the disease is local, as, for example, canker in its early stages in fruit trees. In such cases a simple surgical operation will remove the danger.

So far as prevention of disease is concerned, the fundamental rule is to secure a strong, vigorous and healthy growth of the plant—not an overfed, overcrowded and forced growth that weakens the tone of the tissues and renders them a more easy prey to the attacks of fungal parasites. Other factors bearing upon disease are drainage and good tillage, making for healthy root action; the speedy removal and destruction of all infected plants or portions of plants found in the garden, and the use of well-rotted instead of fresh manure.

It is, further, important to select sound seeds from healthy parents, and if possible to choose varieties that possess a relative resistance toward the particular disease that threatens your crop. Then, in such cases as club-root, where the infection comes from the soil, the fungus may be starved out by using the soil for several years for the growth of crops that are immune to the disease.

The most successful method of fighting disease is to prevent infection. In all cases where the trouble is due to fungi the disease starts with infection through spores, and the concern of the grower is to prevent, if possible, the germination of these spores; hence the use of fungicides distributed in the form of a spray.

Coming now to curative treatment, the difficulty of destroying a fungus growing *within* the tissues of a plant is quite obvious. While sprays may destroy all branches of the fungus or fungus spores that appear on or reach the surface of the plant, they are harmless with respect to the internal portions of the parasite.

A method of treatment entirely new to plant pathology, by which the internal parasite is destroyed, has been recently tried by Miss S. M. Baker, with encouraging results. It depends upon the use of a fluid containing a ferment that digests the fungus, while at the same time it is harmless to the host plant. This ferment is obtained from a fungus that must be familiar to all gardeners. It is one of the common Toadstools, distinguished by the fact that when the spores (which are black) ripen, the shaggy cap rapidly melts, forming an inky fluid that gradually drips away. To science it is known as Coprinus, a word which is classic for "dung," in reference to its usual place of growth. Dr. Buller has shown that this liquefaction of the cap is really an act of self-digestion, by means of which the fungus liberates its spores—liberates them at a calculated rate of a million a minute! Now, all digestive processes are the work of peculiar chemical bodies known as ferments or enzymes. The change of starch into sugar in a germinating Barley grain, for example, is due to the work of the ferment diastase, just as the peptic ferment

in the stomach digests albuminous food. So in the case of Coprinus the fungus secretes an enzyme that, strangely enough, digests its own fruit-body, and thus speedily reduces it to an inky fluid.

This particular fungus, therefore, produces a peculiar ferment that has the special property of digesting fungal tissue, and this fact suggested its application to the treatment of disease induced by internal fungal parasites. Miss Baker, in the current number of the *Annals of Botany*, describes experiments in which she made use of the expressed juice of Coprinus in destroying the fungus which is the cause of silver-leaf disease in Plums, &c. Readers of THE GARDEN will remember (see page 16, issue January 14, 1911) that silver-leaf disease is due to the presence of wandering threads or hyphæ of the fungus Stereum (not remotely allied to Coprinus), and the idea was to introduce the ferment-containing sap of the ink-fungus into the tissues of the tree infected with the Stereum, reasoning that if it was brought into contact with the ramifying threads of the pest, digestion would take place, and so the parasite would be destroyed and the disease cured.

This particular disease is exceptionally favourable to test the efficiency of inoculation, as the effects of the disease become evident in the branches before the hyphæ reach the leaves, and produce silvering. If the inoculation of an infected branch prevents silvering, then it may be reasonably concluded that the introduced fluid has a destructive, and therefore curative, power. The method adopted by Miss Baker was first to inject under the rind of the branch a concentrated watery extract of the liquefying cap of Coprinus, and, secondly, to apply externally a poultice containing the digesting fluid upon those portions of the dead wood showing the fruit-bodies of the parasite. The experimenter states that "one Victoria Plum tree which had been treated with injections for two years showed no silvering on the leaves of the upper parts of the branch in the autumn of 1912 When treatment was commenced, this branch, the last survivor of the five main branches of the tree, was badly affected throughout; it has now borne fruit in the two successive seasons after a sterility of three years' standing, and has produced remarkably vigorous new growths. The lower parts of the branch near the infected dead wood still showed slight silvering on the leaves last autumn." These results are not only interesting from a biological point of view, but extremely suggestive to all workers in the field of vegetable pathology.

D. HOUSTON.

Royal College of Science for Ireland.

[We should be glad to hear from any of our readers who have had experience with the fungus referred to by Professor Houston. —ED.]

TREES AND SHRUBS.

NOTES ON LILACS.

OF all spring-flowering trees and shrubs none is more appreciated than the Lilac. Even the ordinary form of Syringa vulgaris is lovely, but when we consider the intensity and variety in colour, the huge panicles of blossom of both double and single varieties, one cannot wonder at the appreciation the newer forms find with those who are conversant with them.

A few comparisons will show the advance that has been made during the last fifteen years or so. The variety Charles X. is a form of S. vulgaris in which the panicles are thicker and the blooms richer in the shade of purple. This was at one time considered to be a great advance, and was held in high esteem. Charles X. is now surpassed by Souvenir de Louis Spath, in which the colour is again intensified, the panicles larger. For garden decoration it is difficult to imagine a more beautiful Lilac. A shapely bush of this variety will in ten years produce 300 large panicles; these densely coloured blossoms are most effective. The flowers last a long time in a good condition. Take, again, the double-flowered variety, Mme. Lemoine, with its pure white, huge flowers, thickly set on panicles almost a foot in length, many panicles having three spikes each; and when we consider how well this Lilac forces in pots, the wonder is that more plants are not grown.

THE DOUBLE WHITE LILAC MME. LEMOINE.

Few persons will say that in an ordinary garden Lilacs receive the attention they deserve. Often they are cramped in between evergreen shrubs, where they are forced to grow tall and ungainly, or they are planted under forest trees which eventually overhang them. In such a position they cannot get the necessary amount of light they require to mature their annual growth. The roots, too, are unable to obtain the moisture they require or the plant food necessary. Abundance of space in full sunshine is necessary to do them justice, in order that the growths may become properly ripened each season. Without maturity of growth they cannot flower properly. Freedom of growth should be encouraged; the stronger the shoots the finer the blossoms. Weakly shoots can only produce similar inflorescences.

The choicer varieties are usually grafted, and too often the suckers which spring from the various stocks are allowed to rob the plants of much of their energy. All such suckers should be removed directly they are detected. Lilacs will grow in almost any soil, but that of a heavy rather than a light nature is best, as in such soil the flowers develop a richer colour tint. The panicles, too, are stouter, consequent on such soil retaining moisture longer, as it too frequently happens that a dry spell is often experienced during the early part of May, when the panicles are developing.

Deep trenching should be practised before planting, and an abundance of half-decayed farmyard manure may be added at the same time. Established plants should be given a liberal top-dressing of bone-meal, superphosphate, or fowl-manure early in April, lightly forking it in for the benefit of the surface roots. This should be followed with a mulch of half-decayed stable manure as the panicles lengthen. Copious supplies of liquid manure are distinctly beneficial.

If extra large panicles are required, they should be thinned and the bulk of the shoots growing around the panicles pinched at the first joint, which will concentrate the whole energy of the branch to the selected panicle. As to pruning, some discretion is needed. When first planted, the previous year's shoots should be pruned to within an eye or so of the base, with a view to getting a dwarf specimen of good shape, and also to induce future vigour of growth. In the future the cutting of the panicles of bloom will be nearly all the pruning the bushes require. Weakly shoots should be removed, allowing more space for the stronger growths.

Single-Flowered Varieties.—Alba magna is quite the best of the section, being pure white, free and especially fragrant. Marie Legraye is creamy white. Alba grandiflora is freely furnished with smaller flowers than the preceding. Negro is attractive with its intense purple blue shade. Othello is desirable; the blooms are so placed on the panicles that they do not overlap each other.

The deep claret-coloured flowers have a red border. The deep violet purple of Uncle Tom is distinct. Dr. Mirabel has tall, erect panicles of claret-coloured buds, opening into purple lilac flowers. Gloire de Lorraine has red buds changing to violet. Professor Stockhart is a lilac shade of blue. Gloire de la Rochelle is also of a similar tint of colour after the rosy lilac flowers have become a trifle aged. The wine red colour of Pasteur is attractive. Duchesse d'Orleans is quite a new light blue. Mme. Kreuter is furnished with large spikes of various red flowers. Toussaint Louvertre has dark crimson flowers which change to dark violet. Aline Marqueris is reddish purple; Philemon, dark red; Mme. Briot, bright red; Mme. F. Morel, with large blossoms on stout panicles, is of a showy purple colour. Hyacinthiflora is a very pretty variety with pale blue flowers, produced in long, rather thin panicles. Congo is very large in flower and red in colour.

Double - Flowered Varieties. — There are no fewer than ten white-flowered sorts, all of which are worthy of a place in a large collection. Much the best is Miss Ellen Willmott. The pure white flowers are large and the panicles fine. Mme. Lemoine produces longer panicles, but the flowers lack the size and purity of colour of Miss Ellen Willmott. Mme. de Miller is a dwarf-growing variety. Jeanne d'Arc, Taglioni and Banquise are new. Mme. Casimir-Perier has thick panicles of rather dull white flowers. Mme. Abel Chatenay is a magnificent flower and is later in developing than any other white variety, and for this reason should be included, as it prolongs the season considerably.

Coloured varieties are numerous. Condercet produces the largest panicles of any. The flowers are an attractive shade of blue. President Grévy, with the cobalt blue, rose-edged flowers, is attractive. Maurice de Vilmorin is especially thick in the panicle; the rich red colour of the buds is attractive, and when expanded they are blue with a white centre. Dr. Troyanowsky has enormous panicles of rosy pink buds which, when open, are azure blue. Comte de Kerchove I like much—it is so free in flowering; in colour the buds are a rich red, and the open flowers are rosy pink. President Loubet is a fine variety, with carmine buds and deep purple-red flowers. Comtesse Horace de Choiseul has creamy white flowers shaded with rose. Michael Buchner has pale lilac-coloured flowers with a pink margin to each. La Tour d'Auvergne is very double, violet purple. E. M.

A DISTINCT BARBERRY.

(Berberis congestiflora hakæoides.)

There are such a number of Berberises now, the majority of which flower in the early spring, that they are apt to become bewildering; but the subject of this note is one that is so conspicuous, both in growth and habit, that it would be difficult to mistake it for any of the others. It is an evergreen of upright growth, with greyish green leaves almost circular in shape, spiny on the margins. The flowers are orange yellow in colour, and are borne in clusters on short, upright stalks. E. B.

THE ROSE GARDEN.

SEASONABLE WORK AMONG THE ROSES.

Rose growth should be making rapid progress by the middle and end of May, and in not a few instances there will be flowers upon our early varieties in warm quarters. It is this early growth that often gets much affected with green fly, which only wait until a suitable change in the weather to spread to all parts of the Rose garden. Whether it be fighting mildew or aphides, we shall do well to attack them as early as possible. A splendid mixture against all foes is made by using Jeyes' Cyllin Soft Soap, at the rate of not quite 1oz. to a gallon of water. Dissolve the soap in boiling water. A couple of pounds may be dissolved in a quart vessel, and if it can be kept simmering for about twenty minutes it seems better. Of course, one will be careful to mix the solution to a proper strength before syringing, bearing in mind that the ratio should not exceed 1oz. to the gallon; a little weaker strength can be used more freely and will be more useful. It can be applied cold, but is rather more effective when used at a temperature of 70° to 80° Fahr. One can scarcely be too prompt and persistent in the use of washes, nor should there be any delay in capturing grubs, caterpillars and leaf-rollers, which are certain to be about as soon as warmer weather sets in. Washes check these foes; but no method is so effectual and simple as hand-picking or squeezing between the finger and thumb.

However well one's Roses may have been pruned, a little looking over and removal of ill-placed growths will be beneficial. Where these are in any way overcrowded, or with an undue tendency to fill the centres of the plants, they should be cut or pinched away before absorbing much nourishment from the plant, and there will generally be a good deal of this to do during May. The hoe should also be in evidence now, not only as a preventive against weeds, but for stirring the surface of the soil, to which most growers attach great importance. There will be the removal of suckers and staking of maiden Roses to attend to, and if a little of the well-cultivated soil is drawn round the base of dwarfs, much support, as well as a better union of Rose and stock, is secured. Consider the average growth of the variety when staking for support. The height and strength of the supports should vary in accordance with the growth, and a much better appearance is obtained when three assorted sizes are used with a little judgment.

Plants that have given their main crop of blooms under glass need care and attention if they are to be of future service. To stand these on one side will not do; rather, give every care to the securing of some good wood as a groundwork for next season's winter forcing. This is all the more essential with the climbing and weeping sections, for the whole of next year's crop of blooms depends in a great measure upon good and well-matured rods. Too often these plants are placed in the open full early, and so receive an injurious check, to the great detriment of the future crop.

In the case of worn-out plants, it will generally be found advantageous to plant these in the open ground, and grow on younger stuff to replace them. Once a pot plant has greatly deteriorated, it is far more difficult to bring it to a satisfactory condition; but when most of the soil is removed and the plant given fresh soil outside, a good autumn display and healthy growth for further use for the following year are obtained. It is a cheese-paring policy not to have the very best wood where the extra expense of heat and attention is given. A. P.

DAFFODILS NATURALISED AT CLANDON PARK. (*See page* 218.)

THE FLOWER GARDEN.

SOME GOOD PENTSTEMONS FOR BEDS AND BORDERS.

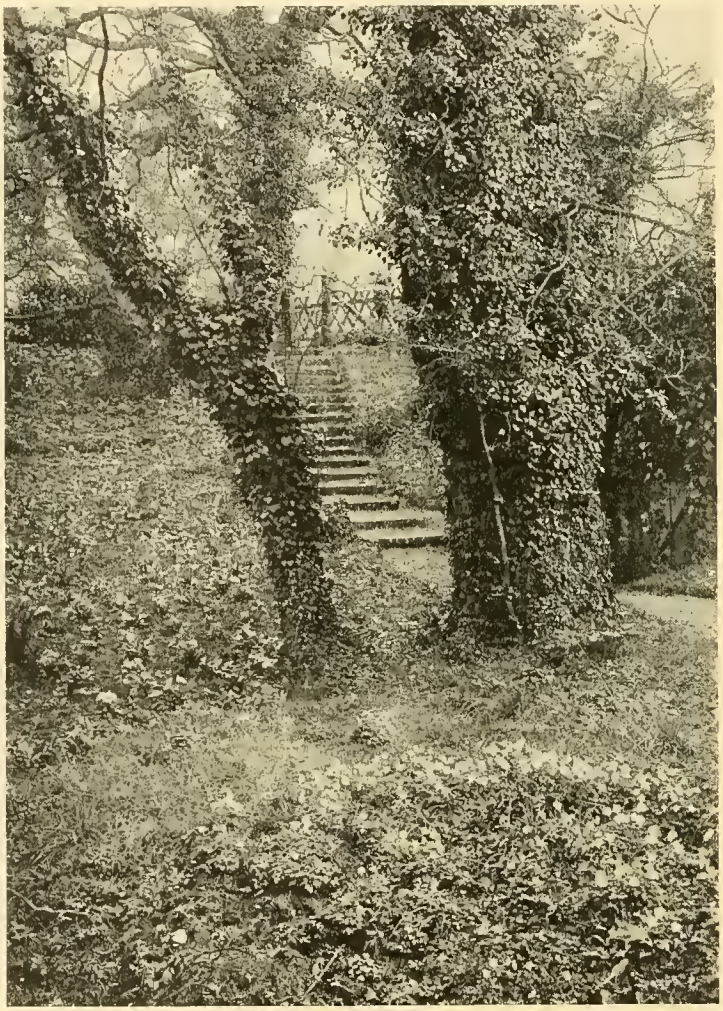
DURING recent years considerable attention has been given to the smaller-flowered forms of Pentstemon, of which the best known in gardens is the Newbury Gem class. Their greatest recommendation is found in the profusion with which they flower, but their extended season and rich, bright-coloured flowers are potent factors that speedily win them recognition in all departments of outdoor gardening where a bright and prolonged display is desired. They are delightful subjects in almost any position in the garden, but their great beauty is most fully disclosed when planted lavishly and preferably grouped in quantities of each variety, for once they come into flower there is never a dearth of blossom, and the display continues right up to the period when autumn frosts prevail. The set includes Newbury Gem, with carmine red flowers and spotted throat, the white form and a pale pink form. There is also a hybrid form named Southgate Gem, in which the flowers partake more of the character of a florist's variety, the tube being crimson and the throat white. In the hybrid form named Myddelton Gem the flowers are coloured rose carmine, shading to rose white, the tube being white, edged with the same colour. This section of Pentstemon is sub-shrubby. On light, well-drained soils the plants frequently survive the winter, and in consequence come into flower earlier in the season than is the case with plants obtained by propagating from cuttings in autumn and wintered in frames. The latter, under normal conditions, come into flower towards the end of June. A species of small-flowered Pentstemon not generally given the recognition in gardens that it deserves is heterophyllus. In its flowers it presents a phenomenon one occasionally notes among blue-flowered plants, in that it requires brilliant sunshine to develop the colour pure. Given favourable conditions then the plant is effective, and one of the most desirable in the entire genus. It is a subject I have found quite hardy on a limestone soil when given a position where surface water and moisture readily percolate away. It may, however, be easily propagated from seed, which comes true and flowers in the season following that in which it was sown, or it may be propagated by cuttings in early autumn in the usual way. P. Kellermanii is another species with small flowers, the colour being an uncommon shade of dark reddish purple or mahogany colour. Like Newbury Gem, it flowers profusely from autumn-struck cuttings or older plants. On well-drained soils it is perennial, forming a leafy, rounded bush some twenty-four inches to thirty inches in height when in flower.

Coombe Court Gardens. THOMAS SMITH.

GARDENS OF TO-DAY.

SPRING FLOWERS AT CLANDON PARK.

CLANDON PARK, the country home of the Earl of Onslow, is situated amid the charming scenery of the Surrey Hills and at no great distance from Newland's Corner, a prominence that commands one of the finest views in the South of England. A footpath, well known to those who appreciate rambles in this delightful county, runs through the park, joining up the old-world villages of Clandon and Merrow.



A VIEW IN THE PRIMULA DELL AT CLANDON PARK, SURREY.

In Daffodil-Time.—It is a pleasant walk at any season of the year, but more especially so in Daffodil-time, for on entering at the Clandon Gate a magnificent sight is revealed. A wide expanse of well-timbered parkland is aglow with Daffodils. Over four hundred thousand bulbs have been planted, among them being Emperor, Sir Watkin, Barri conspicuus, Horsfieldii, Poet's Narcissi and most of the older varieties. Oriental Poppies and English and Spanish Irises are all naturalised over the same area, and form a succession of bloom long after the Daffodils are over.

The Primula Dell.—Following our path from the Clandon side, we at length reach a rustic bridge, from which rainbow trout may be seen disporting in the pool below. A little stream from this pool flows through a copse that dips down by the side of our footpath, and it is this little glade that has been converted into what is aptly called the Primula Dell. The beautiful undulated woodland of this Surrey garden, with winding paths and a deep, retentive soil, provides just the ideal surroundings for a natural Primula garden. Mr. Blake, the able, all-round gardener—with a special fondness for Primulas—has displayed exceptionally good taste in the grouping of these hardy flowers in a natural way. In preparing the dell for Primulas, a deal of undergrowth had of necessity to be cleared away, and the soil, naturally of a heavy nature, had been dug over and left in a rough condition. The spaces between the large clods of clay were filled in with leaf-mould, and it is in these niches that Primulas have been planted, with such admirable results. Primula rosea, the daintiest of all Primulas, has been treated in this way, and is now colonised in large masses by the stream-side. This year the brilliant show of bloom has surpassed that of all previous seasons. P. denticulata and its improved and immensely popular form cashmeriana are the first to flower, and these are shown in the illustration on page 219 in association with the Leopard's Bane, the result of accidental planting, but, nevertheless, creating a brilliant scene of woodland flowers. Windflowers are not excluded from this lovely garden, and Anemone apennina is the subject in the foreground of the illustration on this page, while the slope behind is clothed with Primula denticulata.

P. japonica, now sending up its sturdy flowering shoots, is so much at home that self-sown seedlings spring up each year in scattered places. Polyanthuses in a variety of hues, but mainly those with primrose-coloured flowers, are flowering profusely in shady slopes under Ivy-clad trees and on the banks of a little stream. It is interesting to note that the hybrid Primula kewensis has been tried outdoors. A year or so ago self-sown seedlings were taken from under the greenhouse staging and planted in the dell. They grew for a time, but ultimately succumbed, and further attempts have not been made to grow this interesting plant outside. The Polyanthuses are followed by Primulas frondosa, pulverulenta, Veitchii, japonica, sikkimensis, bulleyana and capitata, all of which flourish amazingly in this dell and prove beyond doubt that for beautifying a damp, rather low-lying piece of open woodland there is nothing to equal the hardy Primulas.

THE GREENHOUSE.

SOME GOOD FLOWERING CACTI.

THE most striking among these just now are the two distinct Epiphyllums, which are so widely removed from the old E. truncatum and its several varieties. In the first place, their period of blooming, their self scarlet colour and, above all, the regular shape of the blossoms compared with the oblique ones of E. truncatum are marked points of difference from the older kind. The two spring-flowering forms referred to—E. Gærtnerii and E. makoyanum—closely resemble each other, so much so, indeed, that though the difference between the two may be readily detected when they are compared side by side, yet the general effect is the same. The style of growth is reminiscent of E. truncatum, and like that well-known kind, these scarlet forms will thrive best when grafted on to the Pereskia. The different Phyllocacti have also unfolded their earliest blossoms, and the gorgeous colours of some of them make one wonder that they are not more often grown, particularly as their cultural requirements are so simple. That they are of little or no value for cut purposes is, perhaps, the reason that they are at the present day to a certain extent under a cloud. Complaints of their non-flowering may often be traced to unsuitable treatment. During the summer the plants should be fully exposed to sun, so as to ripen the wood and ensure the formation of flower-buds. They should at that season also be well supplied with water — a necessary precaution—as there is a tendency, owing to their succulent nature, to keep them too dry during the growing period. In winter very little water will be needed.

The vivid and quite undescribable tints of some of these Cacti constitute their greatest charm. To many those that appeal the most are the varieties in which the interior of the flower is shot with violet, blue, or purple. When this is in combination with a bloom principally of an orange or salmon shade, the effect is almost unnatural. Some of the rose-coloured forms are very attractive, as is also the creamy white Cooperi. The small-flowered Phyllocactus phyllanthoides German Empress is remarkable for the profusion in which its rose-coloured blossoms are borne. Its merits are so great that it should on no account be passed over in any selection of Phyllocacti, although it does not arrest attention by reason of the startling nature of its blossoms as many of them do. All the Phyllocacti strike readily from cuttings if they are not kept too moist. If the plants need repotting, the time to do this is directly the flowers are over. A mixture of two-thirds loam, and the remaining third made up of leaf-mould, broken brick rubble and sand, will suit them well. When repotted the plants should be securely staked, otherwise from their weight they are apt to sway about.

H. P.

DAFFODIL NOTES.

THE LONDON DAFFODIL SHOW, 1913.

IN both quantity and quality the Daffodils shown this year excel those of 1912. Then the season was very exceptionally early, whereas this year flowers were, in many parts of the North and the Midlands, no earlier than usual; at any rate, at the time this show was held. The large trade exhibits were excellent, and, taken all together, they provided an immense number of varieties from which the visiting public might pick and choose. Messrs. James Carter and Co. of Raynes Park and Messrs. Sutton and Sons of Reading departed, as they have done before, from the usual plan of staging a mixed collection of single vases of different kinds. They grouped bold masses of one sort, and so gave people an idea of what the flowers would look like in a garden bed. I must own that this idea is a new one to me, and that it was suggested by a lady who is very fond of her garden and is always on the look-out for "effects." It struck me as eminently reasonable and an idea that might be more often carried out than it is. Carter's group was especially good in this respect, as the blooms were more nearly on the ground-level. I must, however, leave details of these, for there is so much to say about the best and newest individual varieties that were to be seen in the Royal Horticultural Society's Hall on April 15 and 16.

I think it will be an agreeable change for readers to have the views of various people as to what *they* considered either the best or the most novel blooms. In some cases my own opinion coincides with theirs, in others it does not; while there are a certain few that nobody that I asked seem to have noticed.

The greatest departure from the ordinary was to be seen in Red Wing, which the Rev. T. Buncombe staged in one of the competitive classes. It is a small Barri with an all-red eye or centre, and with a fairly well-shaped perianth of a *very* decided pink shade. As this is the second year that it has flowered at Black Torrington, Devonshire, we may take it to be constant. Mr. A. M. Wilson had a single bloom of much the same tone, but not so deep a shade. He tells me that others are coming along, and that we may expect developments in this direction. Opinions were much divided about its beauty among the experts. I decidedly liked it. The two colours harmonised so well. The pink shade of the segments, which gave me the idea that it had "body colour" mixed with it—to use a painter's simile—was just the thing to go with the dull red cup; but Mr. Frank Galsworthy, the well-known flower painter, "did not like it at all" and was "horrified" to see it.

Mr. Engleheart singled out an exceptionally lovely flat-eyed Leedsii, St. Olaf, size $3\frac{1}{2}$ inches by $1\frac{1}{4}$ inches (illustrated on page 204 last week), which most deservedly gained an award of merit. Among all the countless varieties which he had raised, he said, it was one of those which gave him the greatest pleasure. Three grand vases of this stood out very prominently in the centre of Messrs. Barr's stand. The large, flat, deep cream-coloured eye is distinct among Leedsiis and gave the flower its great charm.

Mr. R. Morton, who won a great many prizes in Section III. (for amateurs only), cast his vote in favour of Messrs. E. H. Krelage and Son's marvellous exhibit of trumpets in Class 2. Included among them were Mrs. Ernst Krelage, the famous white of exquisite texture and faultless shape, which secured the much-prized distinction of a first-class certificate; Hope of Holland, soft yellow, with a bold, smooth edge to the trumpet, size $4\frac{3}{4}$ inches by $1\frac{3}{8}$ inches by $2\frac{3}{8}$ inches, practically a self; Seedling No. 112, a very deep yellow, with a flat, star-shaped, overlapping perianth and a well-proportioned trumpet; Glory of Haarlem,

AN EFFECTIVE GROUPING OF HARDY PRIMULAS AND LEOPARD'S BANE.

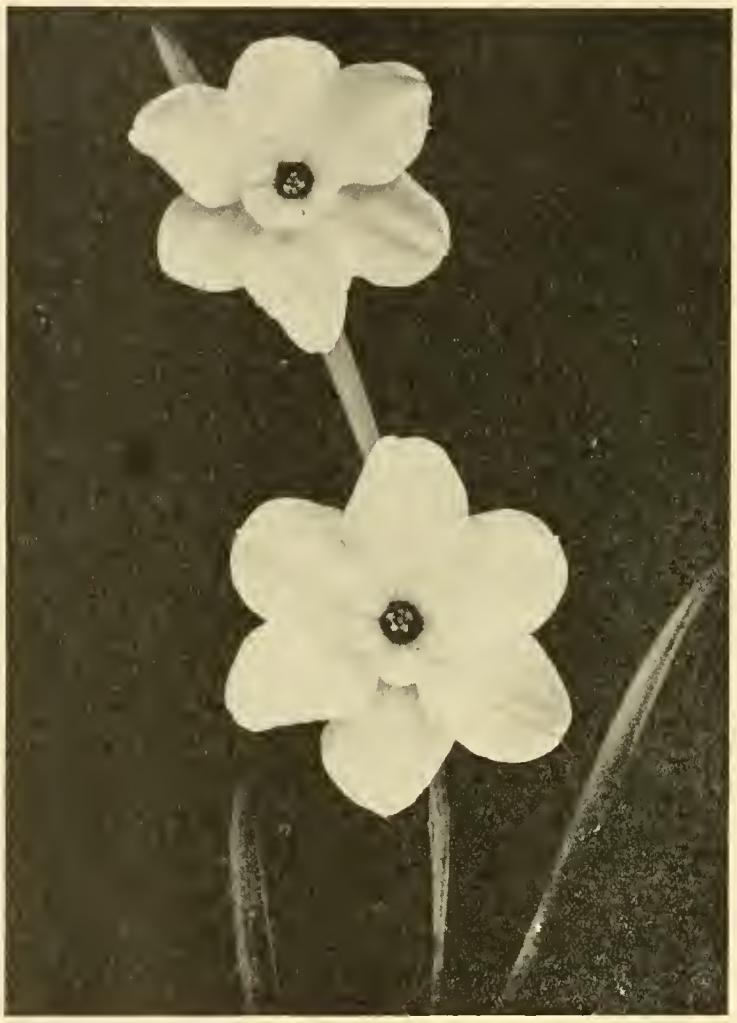
a fine big yellow; and South Pole, a good pale bicolor. It certainly was a fine exhibit.

Mr. C. Bourne considered the forty-eight of Mr. E. M. Crosfield, which secured first prize and the gold medal in Class 1, as the best collection ever seen in London, and few will disagree with his judgment. Of individual varieties he singled out Maid Marion (P. D. Williams), which is the acme of grace and refinement among the bicolor Ajaxes. It is by no means large (3⅛ inches by 1¾ inches by 1⅝ inches), but its proportions, shape, texture and soft colouring are all that one could desire. My comment is, "quite a Bourne flower." How the old father would have loved it!

Captain Kitchin, the child of Brecon, where first of all his Daffodil love was aroused, liked King Emperor, a fine flower, even among Mr. Welchman's superb yellow trumpets. Its texture was, as it were, of the finest silk, and its soft colouring most pleasing. Size, 4 inches by 1⅝ inches by 1¾ inches. Mr. P. D. Williams said the bloom that he would like to live with was his own beautiful pale seedling Susan. It is very *chic*, very sweet, and so very unassuming that none but those with the "loving eye," as Mr. Edward Thring of Uppingham used to call it, would ever have noticed it. Susan has a small, flat eye of the palest lemon shading to green, and long, narrow, pure white segments. Size, 3¼ inches by five-eighths of an inch. Mr. "Alpine" Farrer saw it when I took him round some of the "choiceities" of the show, and was greatly impressed with it. He remembered my description of it a year ago, and had often wanted to see it. He was *not* disappointed—no mean praise when one's expectations are satisfied.

Both Mr. W. A. Milner and Mr. Herbert Chapman thought Mr. A. M. Wilson's Harpagon one of the most striking of all the new varieties. It is what of old would have been classed as an Engleheartii, with an all deep red eye and a pale primrose perianth whose segments slightly incurve. Size, 4⅝ inches by 1¼ inches. It was certainly striking. What put this idea of a mild symposium of people whom I casually met into my mind was Mr. Chapman taking me to see *the* Daffodil in the hall.

The Rev. T. Buncombe had very great difficulty in saying which he thought most worthy of special mention. Ultimately he settled upon Ibex, Hereward and Miami as his favourites. Ibex (E. M. Crosfield) is very similar to Lysander (P. D. Williams), and both may be roughly described as looser and more star-shaped forms of the celebrated Challenger. They were exhibited in the singles, and as I happened to be one of those who judged them, I was very satisfied to know that our decision was in accordance with that of the two owners, who have had much friendly discussion about their relative merits. Lysander gained the first prize. It was just a shade the better florist's flower. Size, 3⅜ inches by seven-eighths of an inch. The cup is of deep orange, edged red, and the perianth pure white, with three flat segments and three inclined to recurve. Hereward is a deep yellow Ajax of the highest class. It has a more refined trumpet and a quite flat perianth which is very slightly hooded towards the outside of the perianth. Broad-backed might suggest its form. Size, 4 inches by 1¾ inches by 1⅝ inches. Miami is a cool-looking bloom of much substance and great smoothness, very pale primrose in colour. The lemon eye is almost quite flat. Size, 3¼ inches by seven-eighths of an inch.



NARCISSUS EMERALD EYE, A BEAUTIFUL NEW VARIETY SHOWN AT THE MIDLAND DAFFODIL SHOW.

Mr. T. Batson said Loki (E. M. Crosfield) gave him great pleasure. It is a sort of flat Frank Miles, pale yellow in colour. Size, 4 inches by three-eighths of an inch by seven-eighths of an inch. It has a similar look about it to Miami, but with a cup and not an eye, and it is of a deeper colour.

Mr. Robert Sydenham singled out King Cyrus. It is one of the large, flat, all-red eyes. The size of the bloom and the deeper shade of colour round the outside of the eye make it a striking flower. Size, 3⅜ inches by three-quarters of an inch. He also liked Sybil Foster, Mr. Mallender's large white trumpet, which has an ideal perianth and is a flower which, if only it had not such a long trumpet, would be one of the highest-priced ones of the world. As novelties, "Uncle Robert" decided upon Anicet and Antony. The former is a pure white Leedsii with a narrow rim of real pink to the cup; very dainty, delicate and innocent-looking. The latter (Antony) is one of the most distinct giant incomparabilises; bar the pink-petalled Red Wing, one of the greatest novelties in the show. The cup is quite away from anything else in the way it rounds in towards the bottom. Magpie's Cup is a little like it in shape. Size of bloom, 4¼ inches by three-quarters of an inch by 1½ inches. Perianth lemon and very smooth. Cup deep yellow, with a slight flush of red.

There is no need to ask Mr. Walter Ware about his particular favourites. As a rule, you have only to go to his stand (which is invariably a *multum in parvo*) and see the new things he has just acquired. Here was a giant Leedsii—in his own expressive language, a "topper"—long in stem, of good form and superior quality. He considers it the equal of Empire in its own line, and hence has called it Kingdom. The short trumpet is a lovely shade of greenish sulphur, and there is plenty of green in its back.

Mr. Bennett-Poë took me to Messrs. Bath and Co.'s Flame when I asked him what he thought stood out as something uncommon. It is a huge super-Barri after the style of Brilliancy, which in turn is a sort of glorified Barri conspicuus. He calls it in a letter to me "a flower of wild form, of great size and striking colour." "Wild form" is good. "She looks very wild" we say of a lady with dishevelled hair; so is Flame. The petals are dishevelled.

My "likes" not previously mentioned were Aladdin (bicolor trumpet), Raeburn (Poet), King Solomon (pale sulphur Ajax), Bayardo (after Buttercup) and Anthea (a very refined Leedsii). I have others too numerous to mention. I hope they will pardon my not including them. Even The Garden cannot hold accounts of every lovely "Daff," good and kind as it always is to them.

Joseph Jacob.

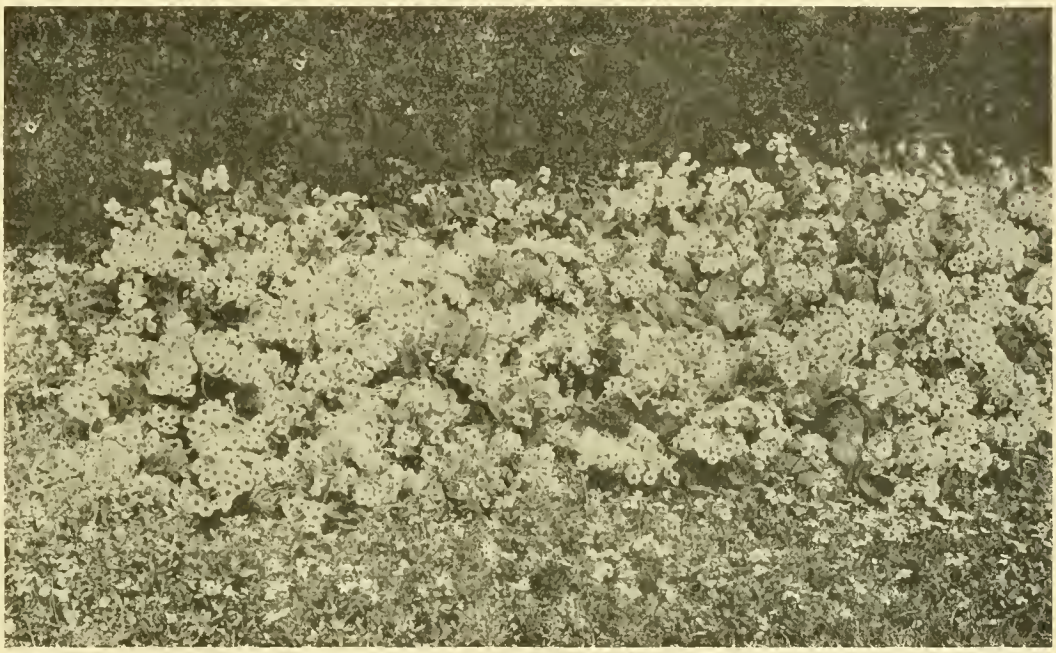
NARCISSUS EMERALD EYE.

This beautiful new Daffodil, which was shown by Messrs. Cartwright and Goodwin at the Midland Daffodil Show last week, and a report of which appears on another page, was considered by experts to be *the* new variety in the show. As its name suggests, the eye of the flat cup is a beautiful and distinct shade of green, and the lower flower of the two was of perfect contour. Unfortunately the illustration does not convey a proper idea of the quiet charm and subtle beauty of this new Narcissus.

GARDENING FOR BEGINNERS.

THE POLYANTHUSES: HOW TO RAISE AND GROW THEM WITH SUCCESS.

AMID the wealth and beauty of spring-flowering plants, none surpasses and few equal that of the Polyanthuses, or Bunch Primroses. They are, indeed, everybody's flower; perfectly hardy, free flowering, beautiful and varied in colour, and of easy cultivation withal. Moreover—and this, indeed, may be one of the chief secrets of a popularity which is universal—they may be raised in their thousands from seeds at quite a small outlay, hence are available for creating effects in April and May of which no other plant is capable. Then, by way of adding to their value from the utilitarian standpoint, it may be stated that in large degree they reproduce themselves fairly true from seeds, hence may be planted in bold masses of colours if so desired. Pureness or trueness to colour, however, is often a question of seed selection and isolation of the colour groups. But whether true to kind or in mixture, the strain, assuming it to be one of repute, will of a surety give satisfaction, whether by the size of the individual flowers, the giant character of the trusses, or the profusion of blossoming. In short, so much attention is being paid by the seed-growing specialists to these plants to-day that there is no reason for the presence of strains of inferior quality in our gardens; much less should those of weedy appearance be tolerated. A well-cultivated clump of a year old plant, grown under favourable conditions of soil, may approach to a foot high and as much through, and be crowded with flower-trusses. Such, indeed, may result where the loam inclines to clay, and where it is of good depth and natural richness. In lighter soils the plants are invariably less vigorous, though special cultivation may, even in these circumstances, mean much to them.



A BED OF SEEDLING POLYANTHUSES EDGED WITH AUBRIETIA.

How to Raise the Plants.—It should be stated at once that there is no method to equal that of raising seedlings periodically, though in certain soils the divided plants give uncommonly good results. The seedling plant, however, possesses a freedom and vigour of its own, and for all ordinary purposes and for the amateur who gardens with hundreds as much as the professional gardener who may require them in their thousands, seedling-raising will be found much the better way—better by reason of results, which are usually of a reliable nature, and because of a more uniform development and generous flowering.

Sowing the Seeds.—Seeds may be sown from January to August, though a more usual period is from May to August. Early sowing in such a case is, however, conducive to large plants, and where the latter are required to give effect in bold masses, a start should be made in good time. These earliest sowings should be made in boxes or pans in a cool greenhouse, while the August sowings would be best made in a secluded spot in the open, or with frame protection. In the case of rather heavy, loamy soils that are both cool and moist, it has been found a good plan to sow the seeds on the surface of a well-prepared bed of soil, giving little or no soil covering to the seeds. In soils of lighter texture, a shaded position should be selected, or shade provided by branches of evergreens or in other ways. If quite thinly sown, the seedlings may remain till early spring before transplanting them. When sowing the seeds in boxes or pans, thin sowing is equally desirable, as is also shading from direct sunlight till the seedlings are well in the rough leaf.

Transplanting the Seedlings.—The February to May sown batches will require to be pushed along rather briskly, and to avoid overcrowding or checking their due development, the seedlings should be transplanted as soon as large enough to handle. The position selected should be one of comparative shade and shelter, with uniform coolness, the last the most desirable of all. These Bunch Primroses, like the common or single kind, revel in cool places, while only existing by comparison in positions more exposed, hence the need for providing shade where it does not exist naturally. The seedlings should be transplanted 4 inches to 6 inches apart from plant to plant, and about nine inches from row to row to admit of weeding, hoeing and the like. An important item through all the stages of the plant is a plentiful supply of moisture, dryness at the root or overhead being detestable to the plants. Apart from the ordinary waterings overhead, soot-water will be found of much assistance in dry seasons in keeping red spider and other insect pests at bay.

General Cultivation and Final Planting.—Polyanthuses prefer a good, well-bodied moist loam of moderate richness, excessive manuring in such tending to great leaf-production. In lighter soils a free use of cow-manure might be indulged in. September and October are the best months to transfer them to their permanent quarters. E. J.

REPOTTING ASPIDISTRAS AND HOUSE PALMS.

THERE is no better time for doing this important work than the latter part of April and the early days of May. Just then the new leaves of Aspidistras are pushing up from the base and the growth of most Palms is getting active, so that the new roots which are formed quickly grip the new soil and the plant receives the minimum check. Too often, however, amateurs repot these plants when such a course is not necessary. Often a top-dressing of good new potting soil would suffice and, indeed, be more beneficial. Aspidistras especially do not object to their roots being confined to a small area, providing suitable food in the form of liquid manure or the top-dressing already referred to is provided.

A suitable soil mixture for Aspidistras and most of the Palms grown in rooms is composed of sweet, partially-decayed loam two parts, thoroughly-decayed manure and coarse sand half a part each, with a good handful of bone-meal and a similar quantity of soot to each half a bushel of the mixture. The plant to be repotted should be turned out of the old pot, and the drainage and as much of the old loose soil as conveniently possible removed, taking care not to unduly injure the roots in doing so. Place it in the new and correctly-drained pot; then carefully ram the new soil all round it with a blunt potting-stick, so that when finished the plant will be about half an inch lower in the soil than it was before. V. V.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Care of Paths.—After rainstorms all catch-pits should be gone over and thoroughly cleared of sand, or it will soon lead to a general stoppage of the drainage system.

Rolling.—Paths should be well rolled after rain, so as to keep a good, hard surface. If this is not regularly attended to, they soon begin to crumble up after a few days' drought, particularly when there is much traffic on them.

Weed-Killer.—This should be applied, if possible, when the paths are in a moist condition after rain, though rain immediately after applying it often nullifies its effects. Such an operation should not be left to an irresponsible person, as considerable care is necessary in applying it near the grass verges, or these will be damaged. Needless to say, all cans, water tanks, &c., must be thoroughly cleansed after using, and the surplus weed-killer kept under lock and key.

The Flower Garden.

Baskets and Tubs.—Where these are utilised for the embellishment of the garden, it is a good plan to get them filled as soon as possible, so that the plants in them are nicely established when the time comes to put them out. If a large cool house is at liberty where the receptacles may be filled and the plants in them grown for a week or two, so much the better; but, failing this, a temporary structure of canvas will do quite well, the shelter thus provided being just sufficient to allow the plants to get nicely established without any check and subsequent loss of foliage.

Calceolarias.—It is a decided advantage to plant these early, and if the show of bulbs is over in the beds in which it is proposed to plant Calceolarias, they should be cleared at once, working in nice short manure and planting as soon as possible. Naturally, one would not choose an exposed position for this early planting, unless provision can be made for covering the beds in the event of late frosts.

Plants Under Glass.

Cannas treated as advised in the calendar for March 8 should now be sufficiently well rooted in 4-inch pots to warrant their being potted into their flowering pots (6-inch). A good, rich compost is necessary to ensure good bloom, as also is very firm potting to keep the foliage and growth generally dwarf. A great amount of heat is not necessary at this stage, but a fair amount of atmospheric moisture is necessary to keep them in really good condition and free from spider.

Chrysanthemums.—No matter at what stage the Chrysanthemum plants are, providing they are nicely rooted they will be the better for removing to the open air, though it is wise to select a sheltered position for them so that they are not damaged by wind or late frost.

Stopping.—Some few varieties, such as the Jameson family, Mrs. Henshaw, Fred Green, Fred Chandler, Miss Rodwell and H. D. Thornton, will have to be stopped during the early part of this month if blooms are required for early November.

The Kitchen Garden.

Planting Out Onions.—Plants raised in pots, boxes, or frames should be planted out at once, having previously made the soil as fine as possible. Firm planting is essential, and if the weather continues dry after planting, it may be necessary to give them a watering in, as well as a spraying overhead each evening till growth recommences.

Leeks.—These also should be planted out in trenches prepared in much the same way as for Celery, allowing from a foot to 18 inches between the plants. On light soil the trenches may be fairly deep, but on heavy soil this is not an advantage, as a quicker growth is maintained when the Leeks are planted nearer the surface of the soil.

Runner Beans.—One or two rows of these may be sown at any time now, selecting a piece of well-manured and deeply-dug ground. Prizewinner and Scarlet Emperor I have found to be exceptionally good-cropping varieties.

Lettuce, Carrots and French Beans in frames must be given plenty of air during the hottest part of the day, and to secure a quick growth a fair quantity of water must be given, and a dressing of artificial or manure-water should be given as required.

Fruits Under Glass.

Figs in cold houses are now swelling their fruit, and every advantage must be taken of the sun-heat, shutting up the house or houses early in the afternoon after a good syringing; this, of course, only on fine days.

Late Strawberries in frames must be well looked after, giving them all the air possible during fine weather. It may not be necessary to artificially fertilise the flowers now that there are plenty of bees at work. Feed liberally as soon as the fruits are set and thinned, never allowing the plants to become dry at the root, and a good crop of fruit will probably come on at a time when it is much needed, the early outside crop often deceiving one owing to late frosts.

Melons ripening must be given rather more air than during the growing period, but I am not in favour of withholding water at the root during the ripening process, the best-flavoured Melons being those that are liberally supplied with water till they are nearly ripe.

Hardy Fruits.

Peaches.—Continue the disbudding of Peaches on walls as the state of the growth warrants, not forgetting to keep a sharp look-out for fly, which is often troublesome in the early part of the season.

Apricots.—This latter remark *re* fly is also applicable to these, and a good syringing on a warm day will often keep it under.

Strawberries that are coming into bloom will need protection should the weather prove cold, and plenty of covering material must be at hand to cover the early bed over should it prove necessary. It is not advisable to put this covering directly on to the plants, but by running a string or wire down each row it will keep the covering material off the plants and so make it very much more effective. THOMAS STEVENSON.

(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Planting Antirrhinums.—The ground should be forked over and made smooth before commencing operations. Antirrhinums tell most effectively when planted in masses; much depends upon the harmonising of colours. The crimson shades and yellows should be associated with each other, while the various shades of pink and white go together. Planted a foot apart, they will entirely cover the ground.

Planting Pentstemons.—Seedlings may now be planted, and although not so reliable as Antirrhinums, they are quite useful for a mixed display. Plant at a foot apart, and be careful in lifting the seedlings, as they have rather bare, fleshy roots.

Staking.—Some of the taller herbaceous plants will now require staking and a first tying. Where there are large clumps of Delphiniums, Lupines and such like, three stakes should be given to each clump, with binder twine run round not too tightly. Strong-growing subjects should have fairly stout stakes, while slender subjects, such as the lighter forms of Aster, should have rather slender stakes. If a line of binder twine is run round a Phlox, the combined strength of the stems generally keeps them in position. Some things, such as Aster acris and Anthemis tinctoria or Kelwayi, are prone to recurve unless closely attended to, more especially if they are near the shade of trees.

The Rose Garden.

Thinning the Buds.—This operation, technically known as disbudding, is a necessity to those who desire large blooms, and especially to those who contemplate exhibiting. The operation can be conveniently performed with a pair of Grape scissors. All malformed buds, or those which have been injured by insects, should first be removed. For general decorative purposes very little disbudding is necessary, and in the case of ramblers, Chinas and what are generally known as garden Roses, no disbudding is required.

The Shrubbery.

Pruning Forsythias. — Although frequently grown on a wall, Forsythia suspensa makes an admirable subject for the shrubbery, whether trained in bush form or pegged down in a clump. Owing to the lack of sunshine last summer, it has not flowered so freely as usual this spring. Now is the time to prune, and as it flowers on the previous season's wood, a considerable portion of that should be cut away.

Pruning Pyrus japonica.—This showy shrub is more or less a continuous bloomer, near the coast, at any rate. The normal flowering period being now over, this is a good time to prune, and it should not be done too severely.

Rhododendrons.—Early varieties like arboreum and nobleanum should have the dead trusses removed.

Plants Under Glass.

Forced Roses.—Unless these receive careful treatment, good results cannot be expected next season. If the weather is mild, they may now be placed out of doors in some cosy corner till they harden off slightly before being put out in the open. Attend closely to watering and give a little stimulant occasionally.

Richardias.—As these go out of bloom they should be removed to the greenhouse and the supply of water gradually reduced. Keep them clear of aphis.

Chrysanthemums.—If the weather is genial, these may now be placed out of doors in a sheltered position. Some growers give them the final shift before bedding out commences, while others delay the operation till the beginning of June. Unless the plants are very forward, I think the latter period is to be preferred.

Azalea indica.—These useful greenhouse shrubs should now be enjoying a little warmth in a vinery till they make their growth and develop their flower-buds.

Deutzias should have the bulk of the old wood cut away, and be placed in a little heat till the young wood is made. Moderate doses of liquid manure twice a week will help to promote a vigorous growth.

Fruits Under Glass.

Mulching Peaches.—In the earliest house the fruits will now be swelling rapidly. As evaporation is now becoming more rapid, the trees will be benefited by receiving a good watering, and after the surface of the border has partly dried, stir it with a hoe, and then apply a mulching of well-decayed manure.

Tomatoes.—The latest batch should now be planted, boxed, or potted, as the case may be. Good loam with a dash of bone-meal in it is all that is necessary at this stage. Early crops swelling their fruits must be regularly fed, more especially if the roots are confined in pots or boxes. Thomson's Special Tomato Manure is very reliable.

The Fruit Garden.

Mulching.—If not already attended to, all newly-planted trees should receive a mulching to conserve the moisture and to help to maintain an equable temperature at the roots. Where the soil is rather light and porous, mulching is much to be recommended, especially in the case of stone fruits on a south wall.

The Kitchen Garden.

Thinning Crops.—This is an important operation, and should receive prompt attention. Spring-sown Onions should be thinned out to 6 inches or 8 inches apart, intermediate Carrots to 6 inches and long-rooted to 9 inches, Salsify to 6 inches, Parsnips to 12 inches, Turnip-rooted Beet to 6 inches and long-rooted to 9 inches. It will be readily understood that these distances are approximate; a good deal depends upon the variety, soil and liberality of cultivation.

Vegetable Marrows.—It is too early to plant out yet, but preparations should be made for them. A good plan is to make a slight excavation, about a yard square, towards the back of a south border, and on this a good barrow-load of manure is placed. This in turn should be covered with the soil excavated, thus forming a slight mound. This raises the temperature at the roots above that of the border.

Salading.—Continue to sow successions of Lettuces, Radishes, and Mustard and Cress.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

LAWNS (*Henley*).—You cannot do better than give your lawns a dressing of bone-meal at the present time; then in autumn give them a good dressing of rich soil. Bone-meal may be applied at the rate of about seven to ten hundredweights to the acre, and an inch of soil may be applied with advantage in autumn. Providing you cannot obtain rich soil, apply well-rotted farmyard manure in autumn.

HYACINTHS AFTER FLOWERING (*J. G. D.*).—The Hyacinths should be allowed to mature in the position in which they have flowered, when they may be lifted and dried off in an airy shed or outhouse. It is doubtful, however, if they will flower so well another year, though they may give small spikes of flowers. The single Jonquils usually flower in May, and they may be early or late, according to the conditions of the weather. It is getting a little late for sowing annuals. Mid-March would have been much more suitable for the majority of such things. Sow the seeds of the perennials at once, preferably in a prepared plot of ground in the open in a rather sheltered place. The resulting seedlings will give you nice, sturdy plants for transplanting in autumn.

TREES AND SHRUBS.

PRUNING HOLLIES (*Judith*).—Your Holly trees may be pruned at once if they require it, but we do not advise you to prune very severely, as the trees have been cut fairly hard during the last two years. It is a great mistake to clip Hollies so severely as to give them a formal appearance. A mulch of well-rotted manure and decayed leaves will do good, but do not pile the top-dressing round the trunks; rather, keep the manure a foot away from the trunks, and let it extend to the outskirts of the branches. It is probable that you will not have so many berries next winter.

BOX SHOOTS FOR INSPECTION (*Quizzy*).—The Box shoots sent for examination have been injured by a small insect called by scientists Monarthropalus buxi. The insect deposits its eggs below the epidermis of the leaf, and when the larvæ hatch out they feed on the leaf-tissues and cause the yellowish galls. You can do something to diminish the attack by spraying the plants during May and June with a paraffin or nicotine solution. Such solutions prevent egg-laying to a certain extent by making the leaves distasteful. They also kill any insects which have not already escaped from the galls. The Berberis leaf sent for name is Berberis Aquifolium variety murrayana.

FLOWERING SHRUBS FOR SANDY SLOPE (*V. C.*).—In addition to those you name, you might plant the common Barberry, double-flowered Gorse, Flowering Currants, Cytisus præcox, Berberis Darwinii and Weigelas in variety. It is, of course, getting rather late for planting such an exposed and steep slope, and early autumn would be much better. If you desire the perennials for the same position, we fear only the Flag Irises would do you any service. White and red perennial Peas, if planted high up the bank, would trail and look very beautiful. The Marigolds, Wallflowers, or Snapdragons, each of which would reproduce themselves from seeds, would be worthy of trial. Neither Lilies nor Gladioli would be suitable.

THE GREENHOUSE.

INDIA-RUBBER PLANT (*H. M.*).—Judging by the leaves sent, your India-rubber Plant appears to be, if not actually dead, at least so far gone that, however treated, it is not likely to recover. You speak of it having been for years in a cold greenhouse, and if that implies, as is generally understood, a structure without any artificial heat whatever, you are fortunate in having kept it so long, for, being a native of the East Indies, it does best in a fairly warm house. At all events, in order to keep it in health, a minimum night temperature should not fall below 45° to 50°. There is no doubt that your plant has been gradually declining in health for some time. Worms at the root might be choking the drainage, and thus, causing a sodden state of the soil, be answerable for some of the trouble; but, as stated, we consider the main reason to be that it has been kept too cold.

SALVIA AZUREA (*A. M.*).—Salvia azurea must be treated in much the same way as S. splendens. At the same time, you must bear in mind that it is naturally of a taller and more slender habit of growth than the other, and consequently it cannot be formed into such bushy specimens as can be obtained in the case of S. splendens.

PELARGONIUM LEAVES FOR OPINION (*F. S. H.*).—We think you are quite right in putting down the trouble with the Pelargoniums to some wrong application of water under the conditions existing in the houses. Either too much or too little water at the time the young leaves are developing frequently causes a check from which they do not recover, and every care has to be exercised in seeing that a proper balance is maintained between the supply of water at the root and the moisture in the air, the temperature and the light.

SOIL FOR CARNATIONS (*G. B.*).—You will find directions as to the most suitable soil for Tree Carnations in THE GARDEN for April 19, page 198. At the same time, different cultivators employ different mixtures, with equal success. One who grows these plants remarkably well advises two parts of good loam of a holding nature, one part leaf-mould, and one part made up of equal portions of old mortar rubble and sand. With a sprinkling of bone-meal the whole is well mixed together. A good book dealing with the subject is "Carnations, Perpetual Flowering," by Laurence J. Cook, price 1s. 9d.

INJURY TO PELARGONIUM CUTTINGS (*E. H. H.*).—The Pelargonium cutting is attacked by the fungus Botrytis cinerea. This is a very common fungus on all sorts of vegetable matter, and the spores are practically ubiquitous. It attacks living plants as a rule (1) after it has been growing for a time on decaying matter in the soil; (2) when they are very sappy or have some unhealed wounds upon them; and (3) at times when they have been exposed to low temperatures. Some varieties are naturally more liable to attack than others, *e.g.*, the white Lily is much more frequently attacked than any other Lily by this fungus, which is the cause of the Lily disease. Treatment and preventive measures in the present case lie in keeping the plants in as well ventilated a situation as possible, removing and burning all dead and decaying matter, keeping the atmosphere as dry as is consistent with the slow, steady growth of the plants, and occasionally spraying with a solution of 1oz. of potassium sulphide in three gallons of water.

ROSE GARDEN.

DISEASE ON SCOTCH BRIAR (*R. F. C.*).—The fungus on the Briar is the Rose rust (spring form), Phragmidium subcorticatum. This spreads by means of the spores on the spring form to the foliage, and produces brown and, later, black spots on the lower side of the leaves. The fungus winters on the leaves, and the more completely they can be destroyed in the autumn the better, for it is from these diseased leaves that the spring infection comes. Spraying with Bordeaux mixture or with a rose red solution of potassium permanganate will help to keep the fungus in check. The disease attacks wild Roses, and so makes it difficult to keep in thorough check in the garden.

FRUIT GARDEN.

WORMS AND STRAWBERRIES (*W. P.*).—The worms you speak about which attack your Strawberry fruits are not likely to be wireworms, but what they are it is not possible to say without seeing them.

SILVER-LEAF ON NECTARINE (*H. E. J.*).—The Nectarine is suffering from silver-leaf disease. Cut out the affected branches beyond the point where the wood shows a brown stain. The disease attacks stone fruits chiefly, but spreads only from dead shoots. Trees attacked rarely recover.

APPLE WOOD FOR INSPECTION (*A. J. B.*).—The Apple trees are badly attacked by the woolly aphis, and probably by the canker fungus as well. It is too late now to spray them with caustic wash, but that is the best winter treatment. From now onwards they ought to be painted with methylated spirit or linseed oil wherever the white woolly matter that protects the aphis makes its appearance, working the brush well into the wounds and among the galls the pest makes.

ARTIFICIAL POLLINATION OF APPLES (*G. H. N.*).—To carry out the cross-pollination of Apples with any large area outdoors is very difficult and tedious, as to be sure of doing it pollen must be transferred by means of a brush from one tree to another. Pollination, as a rule, occurs naturally; but effective cross-pollination in Apples means taking pollen from the flowers of another variety altogether. The only feasible method would appear to be the removal of branches from one variety to the tree it is destined to pollinate, and the use of a rabbit's tail alternately on the flowers of the branch and of the tree.

SILVER-LEAF ON PEACH TREES (*Weybridge and G. S.*).—As you suggest, the Peach is attacked by silver-leaf. There seems no doubt that this disease is due to the fungus Stereum purpureum, which makes its way into the trees, whether they are Peaches, Plums, or Portugal Laurels, by way of wounds. The fruits of the fungus are produced only on the dead stems, and it is from these that the fungus spreads to new trees. Once attacked, branches rarely recover, and it is best to cut them out in case the disease spreads backwards, as it does to some extent. The branches should be removed so far that no brown stain can be seen in the wood, and the wounds should be painted over with lead paint, tar, or a 2½ per cent. solution of Lycol.

YOUNG VINES NOT FRUITING (*A. S.*).—The young Vines are offended with you for cropping them so heavily the first year after planting, and are having their revenge by refusing to give you any fruit to speak of this year. Indeed, in their way they are laughing at you for your folly or want of experience in your treatment of them. Evidently the border is all right, and the treatment you give the Vines in the way of temperature and atmospheric moisture is also right. This is evident from the fact that the Vines have broken into growth freely and regularly this spring. As a matter of fact, you ought not to have taken a single bunch from them last year, and only about three bunches to a Vine this year if you had had the chance, six bunches the third year and a full crop the fourth year. No doubt the Vines will show plenty of fruit next year, but you must not let each Vine carry more than four to six bunches, according to their size and strength.

MISCELLANEOUS.

CLEANINGS OF FLUES FROM A DISTILLERY (*G. W. O.*).—We presume this would be composed of burnt ash and soot, and therefore must contain a fair amount of potash and valuable manures. The autumn is the best time to apply it, spreading it on the surface of the soil and digging it in 6 inches or 7 inches deep at the rate of a peck to the rod or perch.

FROGS AND TOADS (*L. B.*).—Frogs and toads are extremely useful in the garden, and eat many injurious flies and other insects and slugs. They do no harm whatever themselves, and in spite of the fact that you have a stream at the bottom of the garden, you should have no difficulty at all in keeping the frogs and toads, as there are damp spots with plenty of nooks for shelter. Toads especially would be valuable.

RAISING SEEDLINGS UNDER CLOCHES (*C. E. O.*).—Until the seeds are above the ground it is not necessary to ventilate the cloches, but rather to shade them during the warmest part of the day. As soon as the seedlings are above the ground, air must be admitted on warm days. This is done by tilting the glasses on one side, raising them about an inch by placing a stone under them. Remove the stone about three or four o'clock in the afternoon. It is not necessary to ventilate on cold, dull days. The cloches must be taken off while watering the seeds or seedlings.

SMALL HOLDING (*G. W.*).—We are not inclined to regard your scheme with much approbation, as the prospects favour the losing of your capital; but if you are a skilful grower, you would get some return. If you use all your capital on the house, how are you going to stock and maintain it, and how are you going to live until even the first crops mature? It seems to us that your best course would be to grow general crops out of doors for one season at least, and probably for two, when you should have a steady income if you can find a market. How much have you to pay for the land? How is it situated in regard to markets? What practical knowledge have you? Write again, giving full details briefly and clearly and a further reply will be sent.

HORTICULTURAL SCHOLARSHIPS (*R. F. C.*).—Some of the County Councils offer scholarships in horticulture in their own institutions or in those in adjacent counties, and these are either free or assisted. In other counties, and apparently in your own, no such provision is made. Agriculture is far better served in this direction. One or two scholarships are annually offered by the Worshipful Company of Gardeners on the results of the General Examination in Horticulture held by the Royal Horticultural Society. A syllabus and particulars of this examination can be obtained of the Secretary, Royal Horticultural Society's Hall, Vincent Square, Westminster, S.W. The Royal Horticultural Society also maintains a school for young men over sixteen at its gardens at Wisley, Surrey, where thorough instruction is given in both the principles and operations of horticulture; and other schools are in connection with the University College, Reading; Holmes Chapel College of Agriculture, Cheshire; and Uckfield Agricultural College, Sussex. Excellent short courses are given in the County Institute of Agriculture, Chelmsford.

LICHEN ON TREES AND SHRUBS (*Mrs. C.*).—A humid atmosphere, particularly if it be accompanied by a stagnant condition of the soil, is very favourable to the growth of lichen. In some parts of Ireland it prevails to a considerable extent, and we have at different times had numerous examples from that country. It is unfortunate that you have delayed the enquiry till growth is commencing, as in order to destroy the lichen it must be taken in hand while the shrubs are quite dormant. Various remedies have been tried, but the one that meets with the most favour is to spray the affected plants with the caustic soda wash as used for fruit trees. It must be carefully applied and the hands protected with rubber gloves, as it is of a burning nature. Some forms of Stephanotis flower more freely than others, and if plants are raised from seeds they will often cover a considerable space before they bloom. As your plant is in a pot, you will be able to limit the water supply, and if you have been giving stimulants, we should advise you to discontinue them. Then, if it does not bloom this season, see that it gets a good amount of sunshine during the latter part of the summer and in autumn, and then during the winter keep the soil dry. With this treatment it will, under the influence of increased heat and moisture, probably flower next spring or summer.

NAME OF PLANT.—*G. Killick.*—Bryophyllum calycinum.

SOCIETIES.

THE MIDLAND DAFFODIL SOCIETY'S SHOW.

THE fifteenth annual exhibition in connection with the above society was held in the Botanic Gardens, Edgbaston, Birmingham, on Tuesday and Wednesday, the 22nd and 23rd ult. The show was opened by the Lady Mayoress, who was accompanied by the Lord Mayor. Competition was exceedingly good, no less than six groups being staged in the large class for fifty varieties. A promising sign also was the number of seedlings shown by amateurs. The arrangements, as usual, were excellent, and reflected the greatest credit on the secretary, Mr. H. Smith, and the committee. In the evening, Mr. Robert Sydenham very kindly entertained the exhibitors, judges and visitors at dinner at the Grand Hotel, after which the Rev. G. H. Engleheart opened an interesting discussion on the cultivation of Daffodils.

GROUP A.—CUT BLOOMS (OPEN).

Class 1 was for a collection of fifty varieties of Daffodils, representing as far as possible the different divisions. Six exhibits were staged in this class, the premier position being filled by the Rev. J. Jacob, Whitewell Rectory, Whitchurch, Salop, with a beautiful collection of flowers. A few that we specially admired were: H. C. Bowles, a giant Leedsii with large frilled cup; Charlotte, Olympia alba, a large white trumpet; Horace, Lady Moore, a lovely flower, with large orange, scarlet-edged cup, and The Fawn. Second honours fell to Messrs. Cartwright and Goodwin, Kidderminster, who also staged a fine lot of flowers, among them being such sorts as Enterprise, Trojan Boy, a beautiful giant Leedsii; Ethereal, Lord Kitchener, and Orangeman. Mr. C. Bourne, Bletchley, was a good third, having some superb flowers of Queen of Hearts in the centre of his group. Mr. J. Pope, King's Norton, was fourth.

Class 2 was for a decorative exhibit of cut Narcissi only, arranged in a given space. This was the most artistic class in the show, and made quite an interesting feature. Mr. C. Bourne was a good first, with a beautifully arranged exhibit, his vases of Poets being particularly pleasing. Mr. J. Pope, King's Norton, was second, and the Rev. J. Jacob third.

In Class 3, for six distinct varieties of trumpet Daffodils (yellow), there were five entries, Mr. W. A. Watts, St. Asaph, being first, with splendid blooms, four of which were seedlings. The Rev. J. Jacob was a good second, his King Alfred and a fine seedling calling for special mention. Mr. W. A. Milner, Totley Hall, Sheffield, was third.

In a similar class for white trumpets there were only two entries, Mr. W. A. Watts being again placed first. His Benen and Mme. de Graaff were superb. Mr. J. Mallender, Bawtry, was second, his vases of La Donna and Sybil Foster being superb.

For six tricolour Daffodils, distinct, Mr. W. A. Watts was again first out of four competitors. His vase of Arium, a superb, long, cream trumpet variety calling for special mention. The Rev. J. Jacob was second, Olympia alba being his best variety. Third and fourth prizes went respectively to Mr. J. Mallender and Mr. J. Pope, King's Norton.

For six varieties of incomparabilis, Division 2A, there were only two entries, Mr. W. A. Watts being first and the Rev. J. Jacob second. The flowers in this class were rather poor. In a similar class, but Division 2B, the Rev. J. Jacob and Mr. C. Bourne were equal firsts, both staging a very fine lot of flowers, Mr. Jacob's Whitewell and Mr. Bourne's Tritoma calling for special mention. The third and fourth prizes went respectively to Mr. W. A. Watts and Mr. J. Pope.

For six distinct Barris, Division 3A, there were only two entries, first and second honours going respectively to Mr. W. A. Watts and the Rev. J. Jacob, both of whom staged very clean flowers.

In a similar class, but Division 3B, Mr. C. Bourne was first out of five competitors, putting up fine vases of Red Eye and Ethelbert. Mr. F. H. Chapman, Rye, was a good second, his flowers of Captain General, Javelin and Glad Eye calling for special mention. Third, fourth and fifth prizes went respectively to the Rev. J. Jacob, Mr. J. Pope and Mr. W. A. Watts.

For twelve distinct varieties of Leedsiis, three stems of each, there were four entries, the Rev. J. Jacob being first with a beautiful lot of flowers. Endurance, Last Out and Lord Kitchener were three favourites. Mr. C. Bourne was a close second, his Little Joan and Silver Spangle attracting much attention.

In Class 11, for three distinct varieties of triandrus hybrids, Mr W. A. Watts was first out of three competitors, staging Dewis, Cibyn and a seedling. Messrs. Cartwright and Goodwin were a good second with Josette, Chloe and a seedling. Mr. C. Bourne was third, his vase of Lemon Belle being very clean and good.

For six distinct varieties of Tazetta and Tazetta hybrids Messrs. Cartwright and Goodwin, Kidderminster, were first with fine examples of Elmira, Klondyke, Jaune à Merveille, Ideal, Orient and Irene. Third prize went to the Rev. J. Jacob, who had a fine vase of Orange Blossom.

For nine distinct varieties of true Poeticus there were five entries, Mr. C. Bourne being first with a beautiful lot of flowers, among which we specially noticed Homer, Laureate and Horace. Messrs. Cartwright and Goodwin followed closely, the third, fourth and fifth prizes going respectively to Mr. F. H. Chapman, Mr. W. A. Watts and the Rev. J Jacob.

In Class 14, for twelve distinct varieties of original species and natural hybrids, there was only one exhibit, this coming from Mr. Bruce Waite, 92, Carless Avenue, Harborne, who had some good flowers.

Single Blooms.—The first prizes for these were awarded as follow: Yellow trumpet, Mr. W. Welchman, Upwell, Wisbech, with The Commonwealth; white trumpet, Mr. A. M. Wilson, Bridgwater, with White Knight; bicolor trumpet, Mr. A. M. Wilson, with a large seedling; incomparabilis (Division 2A), Mr. A. M. Wilson with a seedling; incomparabilis (Division 2B), Mr. A. M. Wilson with Centurion; Barri (Division 3A), Mr. A. M. Wilson with a seedling; Barri (Division 3B), Mr. C. Bourne, Bletchley, with Queen of Hearts; Leedsii, Mr. Ridley, Wincanton, with Moonbeam; triandrus hybrid, Mr. W. A. Watts with a large seedling; Jonquilla hybrid, Mr. P. D. Williams with a seedling; Tazetta or Tazetta hybrid, Messrs. Cartwright and Goodwin with Jaune à Merveille; true Poeticus, Mr. H. G. Hawker, Ivybridge, Devon, with Dulcimer; and double, Mr. J. Pope with Golden Rose.

For the Bourne Challenge Cup, offered for a group of twelve distinct varieties of Daffodils that have been raised by the exhibitor, there were two entries, Mr. E. M. Crosfield, Cossington, Bridgwater, being first with a beautiful lot of flowers. Ibex, Orb and Nomad were three exquisite Poets, Dell, Winsome and Ringdove being others that attracted much attention. Mr. W. Welchman, Upwell, Wisbech, was second with a dozen trumpets, Lord Cromer (rich yellow) and Lord Lister (bicolor) calling for special mention.

In Class 30, for a group of seedling Daffodils that have been raised by the exhibitor and are not in commerce, there were fifteen entries, Mr. A. M. Wilson, Shovell, Bridgwater, being first, his flowers including some exquisite unnamed Poets. Second prize fell to Mr. W. A. Watts, St. Asaph, Mr. J. Pope and Mr. F. H. Chapman following in the order named.

In the following class, which was similar, except that only three varieties were asked for, there were no fewer than eleven entries, Mr. P. D. Williams being a good first. A seedling with a rich scarlet eye and apricot perianth, and Susan, with a green eye, were much admired. Messrs. Cartwright and Goodwin, Mr. C. H. Cave and the Rev. T. Buncombe followed in the order named.

In the novice seedling challenge class, for three distinct varieties of Daffodils raised by the exhibitor and not in commerce, Mr. N. Y. Lower, Presteign, was first out of ten competitors, staging three very good seedling Poets. Mr. C. L. Adams, Pendeford Hall, Wolverhampton, was second; Mr. W. Wilson, jun., Holmesfield, Sheffield, third; and Mr. J. Simkins fourth.

For the Cartwright Challenge Cup, offered for a group of twelve distinct varieties of Daffodils that have not been in commerce more than four years, there were two entries, Mr. E. M. Crosfield being a good first, his Poets, particularly Orb, Ring Dove and Dick Turpin, calling for special mention. Messrs. Cartwright and Goodwin were second with a beautiful lot of blooms.

In a similar class for six varieties, Mr. C. Bourne was first out of four competitors, his blooms of Miss Willmott and Queen of Hearts being very fine. The Rev. J. Jacob was second, Lady Moore being his best flower. Mr. H. D. Phillips, Mulverle, Olton, and Mr. W. A. Watts were third and fourth respectively.

In a similar class for three varieties, Mr. H. G. Hawker, Ivybridge, Devon; the Rev. T. Buncombe, Black Torrington, Devon; Mr. F. H. Chapman and Mr. J. Pope won in the order named.

For the Herbert Chapman Poeticus Trophy, for a group of six distinct true Poeticus that have not been in commerce more than four years, including at least one variety not yet in commerce, Mr. E. M. Crosfield was a good first, his blooms of Sarchedon, Cæsar and Millie Price being particularly good. Mr. A. M. Wilson was second and Mr. C. Bourne third.

For the Walter Ware Challenge Cup, offered for a group of eighteen distinct triandrus hybrids, Mr. W. A. Watts was the only exhibitor, and at the request of Mr. Ware the cup was awarded to this exhibitor.

GROUP B.—CUT BLOOMS (OPEN TO AMATEURS ONLY).

In Class 38, for six distinct varieties of Daffodils that have not been in commerce more than four years, there were three entries, the first prize falling to Mr. N. Y. Lower for a good lot of flowers. The Rev. T. Buncombe was second, and Mr. T. Batson third.

In Class 39, for a collection of twenty-four distinct varieties of Daffodils, there were no fewer than eight entries, the first prize being allocated to Mr. E. H. Wood, Ludlow, for a very fine lot of blooms, Sunrise and Red Chief calling for special mention. Mr. N. Y. Lower was a good second, Lucifer and Red Chief being two of his best. Mr. J. A. Kenrick, Harborne; the Rev. T. Buncombe; and Mr. R. Bruce Waite, Harborne, followed in the order named.

For nine distinct varieties of trumpet Daffodils, three stems of each, there were seven entries, Mr. J. A. Kenrick, Harborne, being a good first with very clean flowers. Mr. E. H. Wood, Ludlow, was second

In the type classes for three distinct varieties, the first prize winners were as follow: Incomparabilis, Division 2A, Mr. N. Y. Lower; incomparabilis, Division 2B, Mr. E. H. Wood; Barri, Division 3A, Mr. T. Batson; Barri, Division 3B, Mr. T. Batson; Leedsii, Mr. N. Y. Lower; Tazetta and Tazetta hybrid, Mr. J. A. Kenrick; true Poeticus, Mr. E. H. Wood; double, Mrs. Gumbleton, Tewkesbury.

In Class 49, for twelve distinct varieties of Daffodils, three stems of each, there were five entries, Mr. A. Taylor, Olton, being first with some beautiful flowers. Mr. R. Bruce Waite was a good second.

GROUP C.

This section was open only to those who have never won more than three first prizes at any of the society's exhibitions. The first prize winners were as follow: For twelve distinct varieties, Mrs. Ridley; six distinct varieties of trumpets, Mr. E. Winchester; six distinct varieties of incomparabilis, Mr. A. Taylor; six distinct Barris, Mrs. Ridley; three distinct Leedsiis, Mr. W. F. Mitchell; three distinct varieties of Tazetta and Tazetta hybrids, Mr. E. Deakin; and three distinct varieties of true Poeticus, Mrs. Ridley.

NON-COMPETITIVE EXHIBITS.

Robert Sydenham, Limited, Birmingham, staged a fine and comprehensive group of Narcissi, the whole of the flowers being clean and well set up. Among a few that called for special mention were Whitewell, Tinsel, Red Chief, Will Scarlett, Ethelbert, Firebrand, Evangeline, Red Beacon, Miss Bentinck and King Alfred. The same firm also showed some Tulips, Lily of the Valley and other plants grown in fibre. Silver-gilt medal.

Messrs. J. R. Pearson and Sons of Lowdham, Notts, put up a very effective group of high-class, well-grown flowers, the staging being of the usual high order. Virgil, Scarlet Eye, Norah Pearson, Florence Pearson (a beautiful white trumpet), Advance (a deep, red-eyed Poet), Heroine, Lowdham Beauty (fine giant Leedsii), Gipsy Queen, Crœsus and Homer were a few among many that called for special mention. Silver-gilt medal.

Mr. Christopher Bourne, Simpson, Bletchley, staged a small group of beautiful Daffodils, these embracing many of the latest varieties. Among those that were most admired were Queen of Hearts, Undine, Red Eye, Horace, White Lady and Dewdrop. Mr. Bourne also had a collection of well-grown Tulips, such varieties as Mrs. Moon Mr. Farncombe Sanders and La Tulip Noire calling for special mention. Silver medal.

The group of Daffodils staged by Messrs. Cartwright and Goodwin, Kidderminster, was, as usual, of a high order, the flowers all being clean and well grown. Particularly noticeable were Orangeman, Whitewell, Target (with a vivid orange red cup), Southern Star, Emerald Eye (a beautiful flower with large flat cup and vivid green eye), Evangeline, A. D. G. Johnson (with bright red eye) and Horace. Silver medal.

Baker's, Limited, Wolverhampton, put up a fine rock garden exhibit in their usual position. The plants shown were all in good condition, and were well arranged. Among many good plants that called for special mention were Dianthus cæsius Baker's variety, a fine lot of Ranunculus amplexicaulis, Saxifrages Red Admiral and bathoniensis, Arabis aubrietioides, Iocarvillea grandiflora, Erinus hirsutus and E. alpinus albus. Silver-gilt medal.

Messrs. Barr and Sons, King Street, Covent Garden, had a lovely group of Daffodils, all the latest and best varieties being staged in an admirable manner. Among a few of many good things were Anchorite, Rosy Morn (a very beautiful flower, with scarlet eye and apricot pink perianth), Gladiator (a very large, flat-cupped variety, with rich yellow centre and a broad band of orange scarlet), Moonbeam (white, flat cup, delicate yellow eye), Sarchedon (a lovely Poet), Red Rover, Snow King and Socrates. Messrs. Barr also put up a superb lot of unnamed seedlings. Gold medal.

Messrs. R. H. Bath, Limited, Wisbech, staged a beautiful lot of Daffodils and also a fine lot of Tulips, the latter growing in Cocoanut fibre without drainage. Among the Daffodils we noted such as Marie Hall, Whitewell, Refulgence, Evangeline, Diogenes, Will Scarlett, Heroine, Star of the East and Laurette. The Tulips included such beautiful varieties as King Harold, Erguste, Isis and the Rev. H. Ewbank. Silver medal.

Messrs. B. R. Cant and Sons, Old Rose Gardens Colchester, staged a beautiful group of Roses, many of the flowers being equal to those seen at a summer show Such varieties as Rose du Barri, Fortune's Yellow, Sunbeam, Richmond, Claudius and Antoine Rivoire called for more than usual praise. Silver-gilt medal.

Mr. S. Mortimer, Rowledge, Farnham, Surrey, put up a fine bank of Carnations and Stocks in pots. The latter were the variety All the Year Round, the large, white flowers emitting a delightful fragrance. The Carnations, which included all the best varieties, were well up to Mr. Mortimer's high standard of excellence. Silver-gilt medal.

Messrs. Sutton and Sons of Reading made a beautiful display with Cinerarias and forced vegetables. The Cinerarias embraced the large-flowered and stellata types, many beautiful art shades being among them. The vegetables included such kinds as Peas, Beans, Mushrooms, Asparagus, Turnips and Cauliflowers, the whole being splendidly staged. Silver-gilt medal.

Mr. H. N. Ellison, West Bromwich, staged a beautiful bank of Ferns, which provided a cool and welcome change to the more showy flowers. These embraced such kinds as Nephrolepis, Adiantums, Polypodiums, Pteriscs and Osmundas, the whole being in perfect condition. In the centre of the group we noticed some excellent plants of Phœnix Rœbelinii, an excellent Palm for the dwelling-house. Silver medal.

Mr. Vincent Slade, Staplegrove Nursery, Taunton, put up a good collection of Pelargoniums, the bright flowers making a fine feature in the sunshine. All the latest varieties were included, the whole being well grown and of good constitution. Silver medal.

Mrs. Backhouse, Sutton Court, Herefordshire, had an interesting little collection of unnamed seedling Narcissi, among them being a charming little flower with deep scarlet eye and pale apricot perianth, and also several Poets with pale apricot eyes. Silver medal.

Messrs. Reamsbottom and Co., Geashill, King's County, Ireland, had a fine bank of their world-famed double St. Brigid Anemones, the large flowers and brilliant colours being concrete examples of high-class cultivation. Silver medal.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Rock Garden Competition.—Full particulars of our competition for photographs of the best rock garden appeared in our issue for last week. We would remind all those who intend entering that June 1 is the last day for sending in photographs.

Trials of Spraying Apparatus.—The results of the trial of spraying apparatus held by the Royal Horticultural Society at Wisley on the 23rd ult. have now been published. We hope to give an illustrated report of the trials in our next issue.

Removal of Seed-Vessels from Bulbs.—Hyacinths and Daffodils, like most other plants, greatly benefit by the removal of the seed-pods as soon as the flowers have faded. If these are left on, the developing of the seeds takes up a lot of nutriment that would otherwise go towards building up the bulb for another year. Do not, however, make the mistake of removing foliage also.

The Dwarf or Russian Almond.—This is a pretty dwarf Almond, forming a nice bush 2 feet to 4 feet high, and is a native of Southern Russia. The rose-coloured blossoms are freely produced during April. There is a white variety named alba and a rich rosy red form named rubra. Layering forms an easy and ready means of increase. The dwarf Almond is variously known in gardens as Prunus nana and Amygdalus nana, forming the subject of a figure in the *Botanical Magazine*, t. 161, under the second name.

The Chelsea Flower Show.—We understand that the Royal Horticultural Society's Spring Show, which is this year to be held in the Royal Hospital Grounds, Chelsea, instead of the Inner Temple Gardens, promises to be a record one. Arrangements are already well in hand, and the crush which has characterised the Temple Show in recent years is not likely to occur. The show opens at 12 noon on Tuesday, May 20, and closes at 6 p.m. on Thursday, May 22. This exhibition is rightly regarded as *the* flower show of the year.

The Queen at Kew.—The Queen visited the Royal Gardens at Kew on Wednesday, the 30th ult., making a tour of the outdoor garden from the Main Gate, through the Rhododendron Dell, to the Bluebells in the Queen's Cottage Grounds. There on either side of the central path the Bluebells are a sea of blue, which is broken only by the trunks of the trees under which they grow. Of late years openings have been made among the Brambles and other undergrowth, so that wide areas of flowers are now shown which were previously hidden.

Caltha palustris semi-plena.—In this plant we have a bold yellow-flowered Marsh Marigold for the side of the pond or stream or the bog garden, and many will admire it who do not care for the several double varieties, and who have the wild single form in plenty in their districts and so do not plant it in the garden. This variety has all the charm of the glossy leaves and brilliant gold of the wild plant, but the flowers, which are large, are semi-double. They are thus more lasting than those of the single form, but are much less heavy than the doubles, such as C. palustris fl.-pl., C. p. fl.-pl. monstrosa, or C. p. fl.-pl. minor. There is no difficulty in cultivating it in moist soil.

Does it Pay to Spray Potatoes?—Potato-growers have long asked this question. It is well known that in seasons when blight is destructive, spraying will check the blight and considerably increase the yield of tubers; but many Potato-growers have doubted that spraying is profitable on the acreage. According to a report just published from the New York Agricultural Experiment Station, a long series of experiments demonstrate beyond doubt that the spraying of Potatoes is highly profitable in the neighbourhood of that city. The report goes on to say that spraying with Bordeaux mixture should be commenced when the plants are 6 inches to 8 inches high, and repeated at intervals of ten to fourteen days throughout the season.

Cytisus fragrans Growing Outdoors.—Although it is usual to associate this Canary Island Broom with greenhouses and markets, the owners of gardens situated in Devonshire and Cornwall plant it in the open ground as people in less-favoured localities do the common and Portuguese Brooms, and it forms a handsome specimen; in fact, those who have only known it as a pot plant can scarcely imagine to what proportions it grows. Specimens 6 feet to 8 feet high are not uncommon, and when they bloom, often during February and March, they are very conspicuous, for every shoot bears racemes of golden, fragrant blossoms. In some gardens, too, the finer variety, elegans, may also be noted, although it must be considered a rarity. At Penjerrick, the garden of Mr. R. Fox, a very fine example of C. fragrans is to be seen.

The Spring Rose Show.—It is with considerable pleasure that we are able to announce that the National Rose Society's first spring show, held in London on Thursday of last week, and a report of which appears on another page, was an unqualified success. For several years past we have advocated the holding of such a show, because the cultivation of Roses under glass is now very much more widely adopted by amateurs than was the case a few years ago. An exhibition such as that to which we refer has considerable educational value in bringing before the public the varieties most suitable for growing under glass. We would warn our readers, however, against purchasing indiscriminately for outdoor cultivation some of the Roses that were shown. The majority would do well, but some, such as Lady Hillingdon, would in most districts prove intensely disappointing in the outdoor garden.

CORRESPONDENCE.

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

Berberis verruculosa.—I regret that, through a clerical error, miniature plants of this handsome Barberry were mentioned by me under the name of B. verruculosa on page 202, April 26. The mistake would not have occurred had not the plants been so small that their identity with B. verruculosa could not be established, although great care was taken. B. verruculosa is one of the introductions of Messrs. James Veitch and Sons, Limited, Chelsea, through Mr. E. H. Wilson, and was offered in the autumn of 1911. It is hardy in the Coombe Wood Nurseries of that firm, and grows about two feet high eventually. The flowers, which are followed by purple fruits, are yellow, as mentioned before. Miniature plants such as those described would be exceedingly pretty even on small rockeries.—S. Arnott.

Pear Magnate.—I send some photographs of an espalier of Pear Magnate. I think Magnate is a very fine Pear, in flower as well as in appearance, but Messrs. Bunyard have dropped it out of their list. When I asked Mr. Bunyard why, he said it was such a shy bearer. This tree is more crowded with blossom than any other in the garden, perhaps more than any I have ever seen. Unluckily, the photographs are only by amateurs, and were taken just a week too late for the blossom to be at its best; but if they are capable of being printed, they will refute this calumny against Magnate. The pyramid is Williams' Duchesse, and was supplied by Baltet. It very closely resembles Pitmaston Duchess, but is not, I think, quite identical. Moreover, Pitmaston Duchess was not, I believe, raised by Williams.—G. E. Jeans, *Shorwell Vicarage, Isle of Wight.* [Unfortunately, the photographs were not sharp enough for reproduction. —Ed.]

Treatment of Disease in Plants.—I was extremely interested in Professor Houston's excellent article on this subject which appeared on page 215 of last week's issue. The methods of prevention described by him, if they could be adopted on a practical scale, would prove an immense boon to fruit-growers. I hope we shall have more particulars from others who have investigated the silver-leaf disease.—G. M.

Investigation of Pea Thrips.—May I, through your columns, ask for assistance in an investigation into the Pea thrips? Notes on the presence or absence of the pest in all parts of the country are required, and specimens if possible. If those willing to help will communicate with me, particulars will be sent. Correspondents are specially required in the South-Western Counties and Ireland.—C. B. Williams, *The John Innes Horticultural Institution, Merton, Surrey.*

The Preservation of Primroses.—Is it not time that something was done to prevent the destruction of the charming Primrose which goes on so wantonly at this season in many country districts? In a number of localities where the flower abounded within the memory of many who are still living not a plant is now to be found. The uprooting of flowering plants by itinerant vendors is, I am sure, one of the main causes of its disappearance. It is true that in country places far removed from large towns the Primrose still flourishes in abundance, but even in these haunts it is in danger.—P. R.

How to Grow Saxifraga burseriana.—In reference to the note by "Alpinist" in your issue for April 19, this Saxifrage will thrive either in full sunshine or partial shade; but it prefers the sun, and a south aspect suits it admirably. Excessive dampness is a great enemy to this plant; therefore the drainage must be perfect. It seems quite at home in a loamy soil with an abundance of grit and some sandstones. It is also worth growing as a pot plant in the cool greenhouse, as it there makes a handsome plant and flowers quite a month earlier than out of doors.—J. Brown, *Balminnoch, N.B.*

—— In writing of the requirements of Saxifraga burseriana on page 202, April 26 issue, Mr. Farrer says: "Mr. Elliott, whom I took with me for our first sight of the plant in one of its *loci classici*, will bear me out when I say that it there luxuriates in limy silt in a very deep and sunless gorge." But in spite of my debt of gratitude to Mr. Farrer for "taking me with him," I cannot honestly bear him out in all that he says. My recollection is that the plant grew in screes rather than silt, and that there was a very considerable amount of sun in the gorge. However, as Mr. Farrer's impression was of a sunless gorge, and mine of a sunny one, what conclusion is one to come to? Shall we put it down to the effect of our respective dispositions on each other at the moment? To me the whole aspect of the plant seems to indicate that it is a sun-lover. I have only grown one plant in shade, on the north side of a low rock, and it has flowered very poorly. I have several varieties, including Gloria, planted out on granite moraine in fullest sun, without a vestige of shade at any time of the day, and these all flower magnificently. The illustration of S. burseriana Gloria in Mr. Farrer's little book, "The Rock Garden," represents a group of the plant which I exhibited at the Royal Horticultural Society's Bulb Show in 1912. These plants were grown in very gritty loam (in pots) plunged in sand in cold frames, which were left open and without shade the whole of the previous summer and autumn, when they were making their growth and preparing for their 1912 crop of flowers. On one point I feel sure Mr. Farrer and I cannot fail to agree, and that is the amount of sun we had in England in the summer of 1911. And those plants of S. b. Gloria received not only the full direct glare of the sun from overhead, but probably a good deal of reflected heat from the back of the frame as well. Needless to say, they were watered during all this sun-baking. My own opinion is that to get the best results from S. burseriana and its varieties, one should grow it in light, gritty loam in full sun and maintain cool moisture at the roots. Drainage, of course, is essential. This cool moisture at the roots is most easily secured by mixing a large proportion of stone chips in the soil, and giving a top-dressing of the same stone on the surface. When this is done, overhead watering is required at much less frequent intervals than when no stone is used. In "The Rock Garden" Mr. Farrer describes S. b. Gloria as having green flower-stems. This puzzles me a good deal, for my own plants—the original stock came from Mr. Farrer—invariably have reddish stems. Can this be due to the larger amount of sun that my plants receive? I should be greatly interested to know whether all the S. b. Gloria grown by Mr. Farrer have come from one original plant collected by himself, or whether he imported the original stock and subsequently collected the variety in the Schlern Klamm. The story of the discovery of this superb variety from Mr. Farrer himself would, I feel sure, be of interest to more alpinists than myself.—Clarence Elliott.

TEA ROSE LADY PLYMOUTH. A NEW VARIETY SHOWN BY MESSRS. ALEX. DICKSON AND SONS AT THE SPRING ROSE SHOW LAST WEEK. COLOUR, DEEP CREAM, SUFFUSED APRICOT.

Anchusa italica Dropmore as a Pot Plant.—I should like to point out what a beautiful subject this is for anyone having a moderately large and light, cool house. We put some plants in pots early in February, and they started to bloom at the beginning of April. They grow in any kind of soil and need no forcing. As growth advances and they make large plants they require a good deal of water. We have some single crowns in 6-inch pots, and they are very nice, but the best are those with three or four plants in 8-inch and 9-inch pots. They get no taller than when grown outside, and with a thin stake to each shoot make beautiful plants.—E. SMITH, *The Gardens, Springfield, Alderley Edge.*

Galega Hartlandii from Seeds.—Although not specially fond of variegated-leaved plants, I have always had a liking for Galega Hartlandii, not only because of its very beautifully variegated foliage, which comes such a nice silver and green in spring and retains most of its variegation for a long time, but also because it was sent me by the late Mr. W. Baylor Hartland himself. The possession of G. Hartlandii and of the handsome trumpet Daffodil raised by him and given his name always reminds me, if reminder were needed, of that genial flower-lover of the Emerald Isle. I am writing this, however, to point out that G. Hartlandii produces variegated plants from seeds. Some are green-leaved, but a large proportion are as finely variegated as the original. I have some very pretty self-sown seedlings in my garden, all delightfully variegated. One may add that G. Hartlandii, unlike many other plants with variegated leaves, flowers freely, and is pleasing with its lavender blue and white blooms—S. ARNOTT.

The Fifty Best Alpines.—Being only a beginner and my small rockery scarcely eleven months old, I feel I have no right to join those who have been giving lists of the fifty best rock plants; but by writing out a list of my favourite fifty it may interest other beginners. The following are all looking well and doing their duty on my rockery in sun or shade: Acantholimon glumaceum, Androsace carnea, A. lanuginosa, Arenaria montana, Auricula Large Yellow, Asperula hirta, Campanula garganica, C. erinus, C. portenschlagiana, C. G. F. Wilson, C. pulla, C. pusilla alba, C. pulloides, C. turbinata, Dianthus alpinus, D. neglectus, Cyclamen europæus, Erigeron mucronatus, Gentiana acaulis, G. verna, Geranium cinereum, Haberlea rhodopensis, Hypericum polyphyllum, Iris cristata, I. pumila cyanea, I. p. Florida, Lithospermum prostratum, Lychnis Lagascæ, Mimulus alpinus (cardinal red, 4 inches, Bees' strain), Œnothera eximia, Phlox stellaria, P. subulata The Bride, P. s. Vivid, Primula clusiana, P. cortusoides, P. hirsuta, P. involucrata Munroi, P. villosa, Saxifraga Aizoon lutea, S. A. rosea, S. Grisebachii, S. longifolia, S. Elizabethæ, S. Stormonth's variety, Sedum dasyphyllum, Sempervivum arachnoideum, S. triste bicolor, Soldanella alpinus, Spiræa crispifolia and Viola gracilis. Besides these I have had several Crocuses, Fritillarias and Romuleas, all in full flower.—M. W. SUGDEN, *Wells, Somerset.*

FORTHCOMING EVENTS.

May 12.—United Horticultural Benefit and Provident Society's Meeting. British Gardeners' Association's Annual General Meeting at Birmingham.

May 14.—Royal Horticultural Society's Meeting and Tulip Show. East Anglian Horticultural Club's Meeting

THE ROSE GARDEN.

SOME DISEASES OF THE ROSE.

SOME three or four hundred different species of fungi are recorded in books as attacking the Roses of different species scattered over the northern hemisphere; but, fortunately, only four of them need be at all commonly the causes of really serious trouble and anxiety to the Rose grower. The diseases they produce are too well known, at least by name, to every Rose-grower; but possibly the symptoms are not quite so well known, and the Editor, ever alive to the needs of garden-lovers, has suggested that an article dealing with them would serve to forewarn and so to forearm the grower against the attacks of his insidious foes.

What is Disease?—Perhaps it is necessary to point out that the fungus is not the disease, but

ROSE SHOOT AND LEAF ATTACKED BY MILDEW.

its attack sets up a condition of disease by (1) crippling the foliage and in other ways interfering with the normal performance of the life-work of the plant, (2) robbing the plant of food intended for its own use and needed for its own development, and (3) forming poisons which destroy or damage little or much of the host's tissues. It is quite clear that wrong methods of cultivation, *i.e.*, failure to provide the proper environment for the plant, will also cause disease; but there is one great and important difference between diseases due to the attacks of fungi and those solely due to imperfections in the inanimate environment, and it lies in the contagious character of the former.

Dissemination of Disease.—Canker is as catching as measles, rust as infectious as whooping-cough, black spot as contagious as smallpox, and mildew as catching as a cold. Like these human diseases, those of the plant may pass over individuals, and even whole races may be comparatively immune. Like them, too, the condition of the prospective victim and the nature of its environment, which so much determine his condition, to a great extent determine whether or not the plant shall succumb to their attacks.

The Value of Sturdy Plants.—If one wishes to keep a plant free from disease, one must keep it in health, which is to say, plants really healthy rarely (not *never*) fall victims to the attacks of fungi. The first principle, then, is to see to it that our plants are grown so as to be sturdy and strong: open to the light and air and sheltered from cold draughts, but not in a closed-in space so that air has no free circulation; in soil well drained and sweet, moist, but not so as to encourage the development of sappy growth; rich in plant foods, but not overrich in nitrogenous matter.

Prevention Better than Cure.—The next point to remember in dealing with diseases caused by fungi is that when once damage has been done, say, to a leaf, actual cure is impossible, *i.e.*, the particular leaf damaged cannot be repaired, though the plant may develop new foliage in its place. So all our efforts must be, when once the attack has begun, towards prevention of its spread. Thus we come to the bed-rock fact "Prevention is better than cure," and may consider what preventive measures to adopt in dealing with these four diseases, beginning with the most virulent.

Mildew.—The fungus giving the mildewed appearance grows outside the plant, merely sending suckers into it to obtain nourishment. Hence its presence is quite evident and it may be detected by careful observation at its first onset. It attacks all the growing parts, causing the leaves to become curled and incapable of performing their functions. The curling is often worse than is seen in the illustration. Shoots and buds are also attacked. The powdery appearance of the mildewed leaves is due to the presence of myriads of spores, each capable of reproducing the fungus in a fresh centre. As the fungus is itself on the outside of the plant, it may be killed by suitable applications, and either plentiful dusting with flowers of sulphur while the leaves are damp with dew or spraying with sulphide of potassium (liver of sulphur) at the rate of 1oz. to three gallons of water will be the best means of accomplishing this. If tough-leaved varieties, like some of the Hybrid Perpetuals, are to be sprayed, the liver of sulphur may be used at the rate of 1oz. to two gallons of water. It is important to note that mildew is always most virulent when the Roses have received a check, as by drought or cold winds or a water-logged condition of the soil. Shelter from draughts and good drainage, combined with a dust mulch formed by a hoe, will do much towards avoiding attack, and at the same time, where mildew is prevalent, choice may be made of those varieties which, in the particular district, resist the attacks of mildew best. Probably no varieties are perfectly immune, but some are less prone to attack or suffer less from it when it comes than others.

The fungus passes the winter on the shoots in the form of felted webs of greyish threads, which are well shown in the illustration. Occasionally, though rarely in this country, a very resistant form of fruit is developed; but in any case it is from these centres that infection spreads on to new growth, and pieces of stem affected should be pruned out and burned during the winter or spring pruning. The fungus causing the Rose mildew (which does not attack many other species of plant) is called, on account of forming this felt-like growth, Sphærotheca pannosa. F. J. CHITTENDEN.

(To be continued).

THE FLOWER GARDEN.

DAFFODIL NOTES.

THE MIDLAND SHOW.

As the Editor was present himself at Birmingham and a full report of the show appeared last week, there is no need for me to make many general remarks upon the show. Perhaps as one of the competitors I may be allowed to congratulate Mr. Herbert Smith, our secretary, and Mr. Thomas Humphreys, the genial and obliging Curator of the Edgbaston Gardens, on the excellent arrangements made for our comfort. In my opinion the most striking feature of the show was the exhibit of Mr. W. Welchman of Wisbech in the Bourne Cup Class. He staged a magnificent set of trumpets, some of a very high order of excellence, and I am beginning to look upon him as one of our greatest manufacturers of these most attractive flowers. His London exhibit a week previously was *fine*; so was his Birmingham one. The Commonwealth, Hereward and Lord Lister are flowers we would all like to possess. A second feature was the pink perianths They are coming; there is no doubt of it. Mr. Buncombe and Mr. Wilson each had one at London. Mr. P. D. Williams and Mrs. Backhouse of Hereford each had them at Birmingham. One of this lady's was acquired by Messrs. Barr and Sons, and figured on their stand as Rosy Morn. It is a small, well-shaped flower (2½ inches by three-eighths of an inch), with a soft red eye and a decided warm, flesh-coloured perianth, shading off at the ends of the segments to a pale blush. The colouring is not so pronounced as in Mr. Buncombe's Red Wing. I hear, by the way, that this latter has changed hands under a guarantee of its coming the same next year. As it has flowered twice, I do not think the raiser need be afraid of any chameleon-like proclivities developing.

The third feature was the rising tide of seedlings, which every year now creates a new high-water mark record. The Midland schedule provides numerous classes for these new flowers, but they are none too many, and at no very distant date the number may have to be increased.

Lastly, a word to pat ourselves on the back on the way the schedule encourages "beginners." In Group C, that is, "open only to those who have never won more than three first prizes at any of the society's exhibitions," there were splendid entries and the competition was keen. Mr. Sydenham tells a tale of how the winning of a very low-down prize whetted his appetite in his early days of Carnation-growing, and so led him on to the position he afterwards attained. This Group C is based on the same principle, and I look upon Dr. Lower of Presteign as one of its best advertisements. I would like to have his fine red-cupped seedling (shown in Class 32) photographed with some such inscription as this underneath it: "See what encouragement in the early stages of a man's Daffodil life can do." I most heartily congratulate him on his first prize for three seedlings of his own raising.

On the second morning of the show I had a quiet look round and picked out some of the best novelties, which I am now going to describe. The award flowers were described in the report of the show published last week. Of these I will only refer to Norah Pearson, an illustration of which appears below, but which does not do it justice. I call it my flower, as I think I may fairly claim to have discovered it. I do not think Mr. Duncan Pearson, when he left home to attend the show, had any more idea of putting it up for an award and bringing it back with a prize card round its neck than Pope Pius X. had of staying in Rome when he took his celebrated return ticket at Venice in order to attend the Papal conclave. Mr. Pearson thought a good deal of Lowdham Beauty perhaps, and also of the yellow-cupped Elfrida Pearson, but Norah was, comparatively speaking, only a Cinderella. The blooms that were more talked about than any others were two excellent examples of Emerald Eye, illustrated on page 220 last week, which were on Cartwright and Goodwin's stand almost before Mr. Engleheart had unpacked it. It may be described as a big Moonbeam, but with a much flatter cup, in the centre of which is a large deep green eye, just the colour of a young Lily of the Valley leaf, which happened to be near and with which I compared it. Size, 3¼ inches by 1 inch. Ring Dove was a perfectly round Poet which figured in Mr. Crosfield's Cartwright Cup twelve, and also in his Herbert Chapman Poeticus Trophy lot. It is a most symmetrical flower, with deep red rim to its eye. Size, 2⅞ inches by half an inch. It was a decided contrast to Sarchedon, which also was in the same collections.

NARCISSUS NORAH PEARSON, A BEAUTIFUL NEW VARIETY SHOWN AT BIRMINGHAM BY MESSRS. J. R. PEARSON AND SONS.

A sport from Seagull was included in my own first-prize fifty in Class 1. It was found three years ago in a batch of my own Seagull which I had had for a long time, so I think it is an undoubted sport. In shape and size it is the counterpart of Seagull. It differs in the colouring of the cup, which is a sort of pinky buff with a thin, yellow edge. It attracted much attention.

Orb is a fine large red-eyed Barri after the type of Harold Finn. Size 3½ inches by seven-eighths of an inch. I know more than one visitor included it in the best three flowers in the show. It was staged by Mr. Crosfield in his Bourne Cup twelve. Ibex was another flower in this collection. It is a sort of pointed-perianthed Challenger, with a very distinct rim of red to the cup. Size, 3¾ inches by seven-eighths of an inch. Hereward and The Commonwealth were two extremely good deep yellow trumpets in Mr. W. Welchman's Bourne Cup twelve. The first was described last week under my London notes, and I need only say here that a second look confirmed my high opinion of it as an exceedingly refined bloom. The Commonwealth was of quite a different shape and of a much deeper shade of yellow. It was distinguished by its rather short trumpet, which had a bold massive-looking edge. Size, 4¾ inches by 1½ inches by 1¾ inches. Lord Lister, in the same collection, deserves notice as a fine specimen of a pale bicolor Ajax. The three inner segments have a distinct curl.

In Advance Messrs. Pearson and Sons have a red-eyed Poet of great merit and novel colouring, inasmuch as there are two distinct shades of red in the very flat eye, the rim of which is of a deep dull shade and the centre more of an orange tone. Size, 2¾ inches by three-quarters of an inch. Discus (H. Backhouse, raiser) was bought by Mr. Bourne, and was, with the lovely Queen of Hearts, one of the features of his trade group. I called it a flat-eyed Leedsii, with a pale apricot and buff eye or shallow cup. There was much substance in the round-looking perianth, which was broad and overlapping.

There were three lovely bunches of Tinsel on Mr. Robert Sydenham's stand. It has an undulating, white, overlapping perianth, with a bright yellow

cup edged with orange. It is a charming flower. A sort of magnified Ethelbert will give readers an idea of what it is like. Although by no means a novelty, I must allude to the superb example of White Knight exhibited by Mr. A. M. Wilson in the single bloom class for white trumpets. To me it was *the flower of all in the show.* Its pure white, clean-cut perianth and elegant trumpet, with a slightly recurving rim, always must give it character as a unique florist's flower; but when good cultivation is added thereto, then we "have food for the gods." Ailsa is grand; so is Sybil Foster. Loveliness and Arian (all shown in the same single bloom class) are good, but "the best of all the five" was White Knight as shown by my friend Mr. Wilson. JOSEPH JACOB.

PRIMULA COCKBURNIANA: HOW FAR IS IT PERENNIAL?

AMONG the many questions I have raised in THE GARDEN respecting the conduct of plants in cultivation, one has found that there has been a considerable diversity of experience. The experiences of many of your correspondents have helped, however, to solve some of the difficulties one has encountered, and have doubtless saved others as well as the writer much loss of plants and of time in experimenting with them. I have been much interested, for example, in the replies to my questions regarding Anemone fulgens, and I now venture to raise the question of the perennial or biennial habit of Primula cockburniana when in cultivation in this country, and that of the best place to grow it so as to secure its retention without annual sowing of seeds.

It is not everywhere perennial, and many have lost it from time to time after flowering. We find well-known authorities differing in their dicta regarding its duration. Mr. Reginald Farrer, for example, tells us that it is "quite perennial, like P. capitata, if carefully watched in a well-drained, cool place and frequently divided." This is from "The Rock Garden"; but in his "Alpines and Bog Plants" Mr. Farrer calls it "biennial." Of course, that erudite and fascinating writer is drawing upon his more recent experience in "The Rock Garden," but readers will require to note carefully the words "if frequently divided," which reservation, by the way, applies to so many Primulas if they are to be maintained in vigour. Mr. Lewis B. Meredith, whose cultural notes one has so much confidence in from experience of their general practical nature, says in "Rock Gardens" that P. cockburniana is "quite hardy, but, unfortunately, only a biennial." Other writers have had similarly conflicting views. Personally, I have been of opinion that P. cockburniana is practically a biennial with the majority of growers, and I have lost several plants in experimenting upon what I have thought likely lines, as well as upon those recommended by writers.

There seems no doubt as to its hardiness, but the main question seems to lie in the point of drainage. Like most of its kind from the same quarter, it bears the reputation of being a moisture-lover, and, in consequence, it is often treated to such conditions as will suit, say, P. rosea, with the result that it disappears from our ken in winter and never reappears after flowering. One is always inclined to attribute this to the exhaustion caused by seed production; but it seems quite likely that that is not the case, at least altogether, although we find that seedlings generally survive where adult plants fail.

I have been following up the subject, and, from one or two experiences which have more recently come under my observation, I am disposed to suggest that free drainage is the *sine qua non* with old plants of P. cockburniana, with the possible addition of frequent division, although I do not think the latter is absolutely necessary.

The best plant which has come under my observation, as having survived for three winters, after flowering for two summers and also bearing seeds, has been one in the gardens of Mr. W. A. Galbraith at Terregles, Dumfries, where the gardener, Mr. William Hutchinson, informs me it has been for three years and has flowered and seeded. This spring, after a trying winter, it is quite strong and vigorous. Mr. Hutchinson has favoured me with his treatment, and I think it will be found that the question of drainage is emphasised by his success. A bed of ashes about eighteen inches deep forms the base, and on this were laid about four inches of road grit, above this being placed about two inches of nice open loam. This would hardly seem ideal treatment for P. cockburniana, especially with an open, rather sunny position. Yet here the plant has behaved as I have previously indicated, and self-sown seedlings have been produced. I have observed in several other cases of successful retention of P. cockburniana that the drainage was unusually perfect, and I can well believe that a somewhat similar treatment to that adopted at Terregles may enable many to succeed with this bright scarlet plant we call Cockburn's Primrose. Personally, I am again experimenting with several plants, each being tried on a different method, and I hope to be able to report progress again. Yet I think the subject is so well worthy of consideration that I venture to express the hope that others will detail their practice in securing that P. cockburniana should remain a perennial in their gardens.

Dumfries. S. ARNOTT

THE SWEET PEA: AN APPRECIATION.

IT is not arduous to understand the popularity of this flower, for there is no other annual that approaches it in floral profusion, in fragrance, or in exquisite grace. It is very unfortunate, however, that its odorous charm (which in the older forms was very pronounced) should, in the opinion of experts and amateurs alike, be gradually disappearing before the incessant popular demands for larger dimensions and crenulated formations, and the consequent results of excessive and exacting hybridisation.

It is perhaps somewhat consoling to remember that some of the available grandiflora varieties, such, for example, as Queen Alexandra, Dorothy Eckford and Helen Pierce, are still, for garden cultivation, among our very fairest and most effective flowers. Nevertheless, so great is the inconsistency of human nature, even when most seemingly conservative, that I am at the present moment getting my Parma-violet-coloured Eckfordian namesake crossed with a Spencer hybrid—merely for the sake of making it much larger and, therefore, more impressive—in far California by Mr. Lester Morse.

If all other annuals gradually disappeared from my garden, as many of them have done, and only the Sweet Pea and Climbing Nasturtium remained, I would be quite satisfied with my floral possessions of an aspiring description; for along the half-shaded borders, with an environment everywhere of Roses (of which I have 120 distinct varieties) and Oriental and Occidental Lilies, the Sweet Pea blossoms everywhere, and "nothing can stale its infinite variety." There is no other flower, with the exception of the Rose, that so tenderly links the pensive present with the fadeless past. By the hybridising genius of the late Mr. Henry Eckford and his numerous successors in Europe and America it has developed capabilities undreamed of by our ancestors, and though it has, as I have indicated, somewhat deteriorated in the essential attribute of fragrance, it is unquestionably more commanding in its beauty than it ever has been before. Its colouring has been, especially, intensified in a marvellous degree.

Every earnest cultivator of the Sweet Pea has, I presume, his own special favourites, and among mine are Etta Dyke and Nora Unwin, Dobbie's Scarlet and Vermilion Brilliant, Earl Spencer, Melba, introduced by Messrs. Dobbie and Co. and raised by Mr. Malcolm of Duns; Rosabelle, usually regarded by experts as a greatly-improved Margaret Willis; May Campbell, which greatly resembles in colour a favourite Nasturtium; Marie Corelli, Elfrida Pearson, Evelyn Hemus, Paradise Ivory, Mrs. C. W. Breadmore, John Ingman, Elsie Herbert, Mrs. Hugh Dickson, Thomas Stevenson, Clematis, Gustave Hamel, Nubian, Mrs. Routzahn Spencer, Dorothy Eckford, Florence Nightingale, Helen Pierce and Asta Ohn.

Lord Rosebery has asserted that to him the Sweet Pea is more fascinating than the Orchid. Its beauty and fragrance can at least be more intensely appreciated under widely different atmospheric conditions. DAVID R. WILLIAMSON.

TREES AND SHRUBS.

THE HARDY BROOMS.

ALTHOUGH the name of Broom is more closely associated with Cytisus scoparius, the common Broom of our commons and hillsides, than with other species, it has been pretty generally adopted for all the kinds of Cytisus and Genista, and the Brooms are looked upon as a very important group of late spring and early summer flowering shrubs. That they are popular is not to be wondered at, when it is considered that they are easily raised, quickly attain flowering size, flower freely every year and give comparatively little trouble.

Propagation.—This may be effected in any one of three ways. Those kinds which come true from seeds—and this may be said to refer to all the species—are best raised from seeds. But there are certain hybrids and varieties which have to be raised in other ways, and in such cases cuttings or grafts are used. As a rule, cuttings 3 inches to 4 inches long are made from young shoots, with a slight heel of old wood, during July or August, and are inserted in sandy soil in a close but cold frame, artificial heat being detrimental. After being firmly inserted they are well watered and kept close and shaded from sun for several months, giving water when necessary. Growth commences with the lengthening days in spring, when air is admitted, the rooted cuttings being removed in April. When grafting is resorted to, the work is usually performed indoors in spring. As a rule, the common Laburnum is selected as the stock, and either young plants or sections of root are used. The scions may be made of either one year or two year old wood, but in either case it must

be woody, that which is of a pithy character being unsatisfactory. The side graft will answer in many cases, but it is often necessary to use a wedge graft on account of the difference in size between stock and scion. When grafted, the plants are placed in a warm and close frame until the union is effected, when they are gradually hardened off and removed to the open air. Kinds like andreanus and præcox are increased by cuttings or grafts.

Pruning.—During the first two or three years it is necessary to keep the plants well pruned, otherwise they will grow rapidly in height and become bare at the bottom. By repeatedly cutting the young shoots back, a good foundation is laid, and pruning in later life is reduced to a little shortening of the growths after flowering. Brooms as a whole object to being pruned into old wood, and a plant which is cut back into wood which is three or four years old never breaks freely. The purple-flowered Broom, Cytisus purpureus, differs from other kinds by requiring to have the old shoots cut clean away each year, for it renews itself annually by young growths, which spring from the rootstock. Another kind, Cytisus nigricans, and a Genista, G. elatior, also require different treatment, for they flower during late summer from the current year's wood; therefore they must be pruned during winter or early spring.

Planting.—A few words are necessary regarding planting, for although the Brooms thrive in almost any soil of a loamy character, from sand and gravel to fairly stiff clay, they must be placed in permanent places while quite small, for it is almost impossible to transplant well-grown examples with any degree of success. As a rule, the root system is ridiculously small in comparison to the branch system; therefore large plants fail to obtain their proper supply of food when the roots are disturbed.

The Best Kinds.—Cytisus scoparius, the common Broom, naturally suggests itself as one of the most useful, for it grows in the poorest soil and creates a glorious effect when covered with its golden flowers, whether growing on poor ballast on railway banks, in stony ground on moors and commons, on mountainsides, or in gardens. Its variety andreanus, which is recognised by the two brown petals borne by each flower, is a great favourite; while the Moonlight Broom, a variety with cream-coloured flowers, is also very attractive. The white-flowered Portuguese Broom is also a popular plant, its small white flowers appearing with the greatest freedom during May. C. Dallimorei is a hybrid between the last named and C. andreanus. Growing as tall as either, it is intermediate in character between the two, but it has showy purplish blossoms and is quite distinct from any other Broom. Another hybrid is noticed in the early-flowering C. præcox, which grows 5 feet to 6 feet high and flowers magnificently. Its only drawback is that its cream-coloured flowers have a disagreeable odour. C. purgans is a dwarfer plant than those previously mentioned. Growing about three feet high, it is of upright habit and produces golden flowers. The Eastern European C. biflorus is one of the earliest kinds to flower, and is often opening its blossoms in April. It grows from 2 feet to 3 feet high, and usually bears its flowers in pairs from axillary buds. C. capitatus differs from other kinds by producing its yellow flowers in rather dense heads from the points of the branches. C. purpureus is a charming kind which is very different in appearance from the other Brooms. Of dwarf habit, it scarcely attains a height of 1½ feet, forming slender, arching branches which bear a profusion of pretty, purplish flowers. A close relation of the last named is found in the hybrid C. versicolor, which also has purplish flowers. C. Ardoini introduces quite another group, for it is a very dwarf grower, suitable for the rockery. Its flowers are golden. Several natural hybrids have been obtained from it, two of the best being the golden-flowered Beanii, and kewensis, which has cream-coloured flowers. Other dwarf Brooms of considerable beauty are C. decumbens, C. leucanthus, Genista pilosa, G. sagittalis and G. dalmatica. The Spanish Gorse, Genista hispanica, is another excellent plant. Growing about two feet high, it forms excellent cushion-like plants, which towards the end of May are globes of gold. G. cinerea, G. virgata and G. æthnensis are tall-growing kinds. D.

THE PREMIER GREEN-EDGED AURICULA, WM. SMITH, SHOWN BY MR. J. DOUGLAS AT THE LONDON SHOW LAST WEEK.

COLOURED PLATE.

PLATE 1471.

THREE GOOD PERPETUAL-FLOWERING CARNATIONS.

DURING the last decade the Perpetual or winter flowering Carnations have undergone a truly wonderful change, and one that has made for all-round improvement. At the time when these Carnations first began to attract general attention in this country, there were not a large number of varieties, and these were mostly of American origin. Weak, attenuated stems and thin, colourless flowers, with none too robust constitution, characterised the Perpetual-flowering Carnations of those days; but, thanks to the efforts of raisers in this and other countries, all these defects have been remedied. A few years ago, when Britannia was attracting a good deal of attention, we must confess that we feared that precious attribute, fragrance, was in danger of being "improved" out of existence, if we may use such a phrase; but after a few rather more than gentle warnings, raisers saw the folly of their ways, and have, during the last three or four years, given fragrance its rightful place.

The three varieties shown in the accompanying coloured plate were raised by Messrs. Allwood Brothers at their Wivelsfield nurseries, Hayward's Heath, to whom we are indebted for the flowers from which the coloured plate was prepared. All three are excellent varieties, but perhaps Mary Allwood is the doyen of the trio. It has gained 92 points out of a possible 100 from the floral committee of the Perpetual Flowering Carnation Society, the highest number yet awarded from that source to any variety. It is good in shape, fragrant and particularly free-flowering. Need we say more? Wivelsfield Wonder, the striped flower, will probably not appeal to everyone, but we must confess to a partiality for it. The flowers are well poised on long, stout stems, and are really first-class for decorative purposes. But its delicious fragrance appeals to us more than that of any other variety we know. We must have Wivelsfield Wonder, if only for its scent. It is a seedling from the famous old variety Mrs. Bradt, which was, we believe, one of the parents of Enchantress, and which has played an important part in the genealogy of most of our best Perpetual-flowering Carnations.

Wivelsfield White is a white seedling variety that is as yet in its infancy. We have seen and admired it on a number of occasions, and we believe that those salesmen in Covent Garden Market who have seen it think very highly of this variety for decorative purposes. It is a pure, glistening white; the flowers are very full, deliciously fragrant and, we believe, more productive than any other white variety. If it lives up to its present reputation, this Carnation should have a particularly brilliant future in store.

THREE GOOD PERPETUAL FLOWERING CARNATIONS—

Wivelsfield White.
Striped: Wivelsfield Wonder.
Red: Mary Allwood.

Hudson & Kearns, Ltd., Printers, London, S.E.

THE GREENHOUSE.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

THE Chrysanthemum grower and enthusiast has much to do during the month of May, as the plants, no matter in what stage they are in, should be growing freely, and the best advice I can give just now is to allow the plants all the light and air possible if still in the frame, with perhaps this exception—the late-rooted plants that are intended for growing in small pots. These probably have hardly got over their first potting, and must be very carefully coaxed along for a little while; and though they may have the benefit of the lights over them during the day to prevent them flagging too much, their removal in the afternoon and evening will do much to help the plants to attain that hardiness that is necessary for them to stand (without flagging) the full sunlight. Early in the month, certainly during the second week, all established plants, whether for large flowers or decorative purposes, should be removed to the open air, giving each sufficient space to develop its leaves properly. A somewhat sheltered, though open position is the best for the plants, and some provision should be made to spread tiffany over them in the event of late frosts occurring. It may also be advisable, in the event of strong winds, to run a length of tiffany on the windward side of them, for it must be borne in mind that the foliage for the first few days after their removal from the frame is very brittle, and strong winds, if not broken somewhat, do a great deal of damage.

Staking is also necessary, and I make a practice of putting a 2-feet or 3-feet stake to each plant (according to the varieties) as they are stood out; this carries them nicely till they are potted and placed in their position for the summer.

Green Fly at this season is sometimes troublesome, but a weekly run through the plants with the Tobacco duster will keep this pest in check. I am apt to think this is preferable to, and quite as effective as, spraying the plants with an insecticide, as the slightest overdose will burn the young growing points, and any injury to the foliage now, either by fly or insecticide, will spoil the look of the plants for the whole season.

Stopping.—There are a few of the exhibition varieties that, if left to break naturally, would produce their blooms somewhat late. Such varieties should be stopped at once, and these include the whole of the Jameson family, Fred Green, Fred Chandler, Miss Boyes, Bob Pulling, Mrs. H. J. Jones, Mrs. W. T. Smith, Mrs. R. C. Pulling, Miss May Fox, J. Surry, Mrs. A. E. Usher, Joan Stratton, Miss Rodwell, C. J. Bien, W. H. Head, Mrs. Henshaw and Mrs. H. D. Thornton. Towards the end of the month the following varieties, if they have not already made a natural break, should have their points pinched out: Hon. Mrs. Lopes, Captain Mitford, Colonel Converse, Queen Mary, Mrs. Gilbert Drabble, Frances Rowe, Miss A. E. Roope, Lady Frances Ryder, Frank Payne, Master Rex, M. Paolo Radaelli and Mme. G. Rivol.

Potting.—About the third week in the month some of the earliest-rooted exhibition varieties should be in a forward enough condition to warrant them being given their final shift. Needless to say, a well-prepared compost should be employed, not necessarily rich in manure, but of a good holding nature that the plants will make plenty of roots in. Firm potting is essential, and well-drained pots ensure them going through the season without becoming water-logged. Plenty of space should be left at the top of the pots to allow of two or three surface-dressings later in the season. After potting, the plants make root more quickly if stood closely together for a time, and if the weather is warm and dry, frequent syringings overhead will help them to get over the shift quickly. Watering in must not be delayed too long, or the ball of soil will become very dry, when several waterings will be needed to soak it thoroughly through again. March or April struck plants, as soon as nicely rooted in the 3-inch pots, should be potted on into 4-inch or 4½-inch pots, keeping the lights on them for a few days till they become established, when they should be removed to the open air and treated in the same way as the earlier-rooted plants.

Early-Flowering Chrysanthemums.—Whether intended as cut flowers or for the embellishment of the garden, these should be planted out during the early part of the month. Richly-manured soil is not necessary, but ground that has been well worked is quite essential for success. For cutting purposes the plants should be arranged in beds of three or four rows wide, and if planted in this manner they may easily be covered in the autumn. It is astonishing the quality of bloom that can be obtained if they are well looked after. Plant firmly and stake at once, making the soil quite fine round the plants, so that there is no harbour for slugs. If the weather is very dry, give one good watering, after which in a normal season very little water will be required till bloom-buds appear, when they may be assisted with a little natural or artificial manure.

Surrey. THOMAS STEVENSON.

ROCK AND WATER GARDEN.

A RARE AND BEAUTIFUL PRIMROSE.

(PRIMULA REIDII.)

ALTHOUGH this Himalayan Primula has been known for a considerable number of years, it is still an uncommon plant in our gardens. This is perhaps due in some measure to its requirements under cultivation in our changeable climatic conditions being imperfectly understood. To those possessing a cool greenhouse or frame, little difficulty should be experienced in growing this species well.

PRIMULA REIDII, A RARE AND BEAUTIFUL PRIMROSE WITH WHITE FLOWERS.

It is most satisfactory to raise this plant from seed. This should be sown during February or March in a seed-pan and kept under moist conditions in a temperature of from 50° to 55°, watering when necessary by standing the seed-pan in a saucer of water. Germination soon takes place, but the young seedlings should be left until the first true leaves are formed. They may then be pricked out carefully in a fine compost such as is generally used for this purpose, keeping them under the same conditions of temperature and moisture as that used for germination, taking care to shade from the strong sunlight until they are established. Treated in this manner the plants produce a strong autumn growth, and sturdy specimens are obtained

before winter. About October they may be placed in a cold frame and kept fairly dry at the roots until March, when they may be removed to warmer quarters if required early and given a more liberal supply of water, and the greater percentage will be found to produce their attractive white flowers with the growth of the leaves. If tried upon the rockery, every means possible should be used to retard growth until this is safe from late frosts, and a sheet of glass or some such covering used to throw off excessive moisture. This species is really perennial, and may be propagated by dividing the young shoots that sometimes spring from the sides of the plant; but raising by seed is preferable, and gives better results. The illustration shows one of the two pans exhibited at the Primula Conference held at the Royal Horticultural Society's Hall on April 16, and portrays the beauty of this species when well grown. R. L. HARROW.

Royal Botanic Gardens, Edinburgh.

PLANTS FOR A STREAM GARDEN.

NOT every garden can boast natural means wherein to cultivate water-side plants, and elaborate facilities are a luxury for the few. Happily, the pleasure associated with water gardening may be enjoyed with the aid of quite simple means on a small scale, and the success obtained with the latter is often very great. A pretty effect is given to the water garden when arranged in the form of a stream garden, the water being given an irregular course and for the greater part of its length confined to a narrow channel, with one or more wider parts introduced in the form of pools, in which Nymphæas and other choice aquatics can be grown. While the narrow channel and pools will form the actual area showing water and be lined with some impervious material, the sides of these, if shelved some nine inches below ground-level and lined with similar material and filled with soil, will make congenial positions for growing moisture-loving and bog plants. The soil in these beds should come quite 9 inches above actual water-level, for although numerous plants revel with their roots in wet soil, yet they enjoy somewhat drier conditions around the crowns.

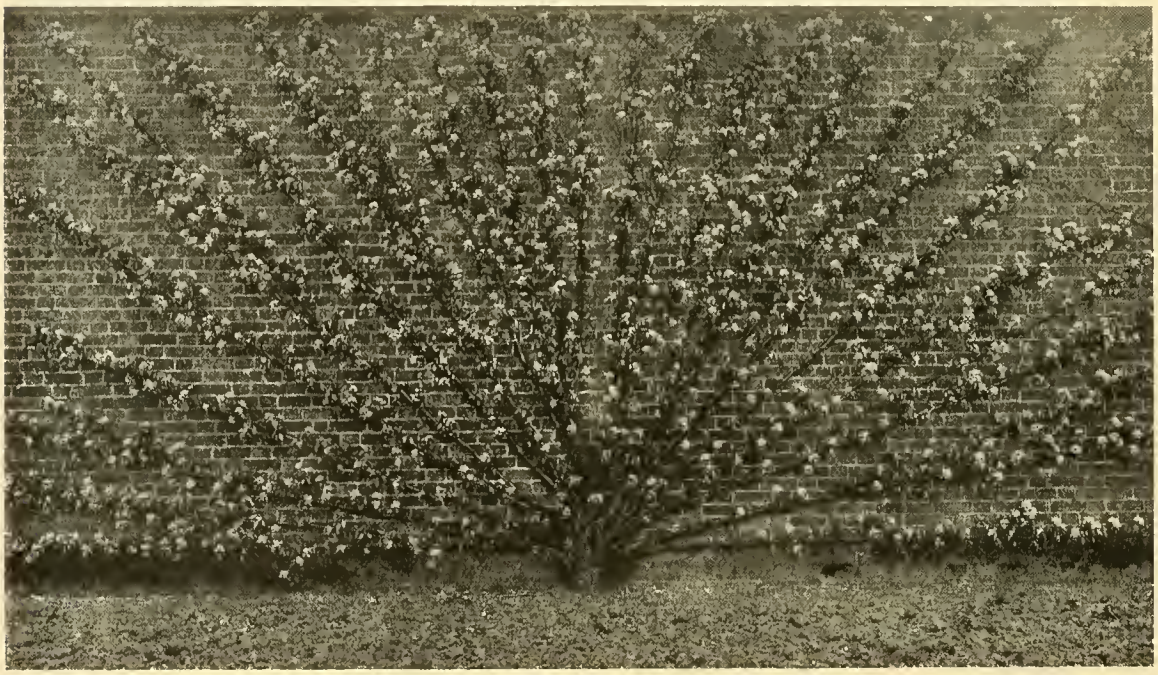
On heavy soils, and without large trees in the vicinity to send their roots into it, well-puddled clay offers a cheap and inexpensive material for holding water. It requires to be thoroughly worked into a plastic condition before laying down, and, to ensure the work being thoroughly done, only a small quantity should be treated at a time, while all completed parts must be kept damp until water is turned on. A thickness of 6 inches to 9 inches is generally employed. Cement concrete is also much in request for lining water areas, and is best laid down in two coats; but before doing so all moved ground must be rammed absolutely firm, otherwise shrinkage will inevitably follow, and may possibly ruin the work. The first layer is formed of rough ballast and cement, used in the proportion of three of the former to one of the latter, and is well beaten together while it is green. The second coat is applied when this is partly firm but not fully set, so that both may unite together. Fine washed sand three parts and Portland cement one part, well mixed and laid over a 3-inch coat of the rough material, will generally prove sufficiently strong for any water scheme on a moderate scale, and if the face is well worked as this coat is laid, a perfectly impervious lining will result. When all is thoroughly firm and hard, the bog-beds are filled with a compost of two parts fibrous loam to one part of peat and leaf-soil mixed, and if this is made moderately firm, planting may take place at once.

April and May are the two best months of the year for moving water and bog plants, as growth is then becoming active, and with all the summer in front of them they become established and often give a good display the first year. Of effective bog plants that succeed close to the margin of the water, Caltha palustris flore plena is showy and reliable. Mimulus Brilliant spreads out into great masses of coppery red flowers. Primulas rosea, japonica, pulverulenta, cockburniana, Sieboldii, sikkimensis and bulleyana are invaluable for this position, and present a bright display from April till the end of July. Ranunculus aconitifolius plena and acris flore plena are bright subjects for an early display. Trollius in lemon, yellow and orange follow later. Dwarf Astilbes like Silver Sheaf, chinensis and Queen Alexandra are conspicuous objects in the water garden, where the moist conditions bring out all their latent beauty.

Of the Iris family, all the selected forms of Iris sibiricaa re good; so, too, are the hybrid forms of Monspur and the giants Iris aurea and gigantea; both flower in July. I. Kæmpferi presents most gorgeous colours and the greatest variety, and therefore calls for liberal representation. Rodgersias podophylla, pinnata and tabularis are reliable bog plants of moderate growth. Any of the Arendsii hybrid Astilbes give an effective display, and the species Davidii, grandis and rivularis develop masses of their showy spikes. This also applies to Spiræa, of which palmata and venusta are excellent among the dwarfer kinds, and kamschatica (gigantea) and Aruncus the best of the tall growers. Senecios, being strong subjects, demand much space. Artemisia lactiflora flowers late, and on this account is welcome. Varieties of Phlox decussata, Michaelmas Daisies and Solidagos are never finer than when informally grouped under the conditions of a bog.

The light and graceful habit of ornamental Grasses, when suitably placed, augment the beauty of the flowering plants. In this connection the elegance of Bamboos must not be overlooked, as they are inimitable as backgrounds in small gardens, and in larger areas they may figure prominently in the foreground close above the water's edge. Other effective Grasses are Arundo macrophylla glauca, Cyperus longus, Scirpus zebrinus, Glyceria spectabilis variegata, Carex pendula and riparia variegata, and Miscanthus zebrinus. Some of these are aggressive in character, and all are best given positions where they cannot overrun choicer things. Small ledges at the sides of the basins or a few loose stones along the margin placed in the water, with a quantity of soil to start them, is the best way I have found to attain this end. In the drier part of the bog Liliums pardalinum and superbum, with Cypripedium spectabile and some Osmundas, Onoclea and Struthiopteris among them, will present a charming feature, to which Trilliums and Dodecatheons may be added as a ground carpet. There are, of course, many other good and suitable plants, but the above will suffice for a start. THOMAS SMITH.

Coombe Court Gardens, Kingston Hill, Surrey.



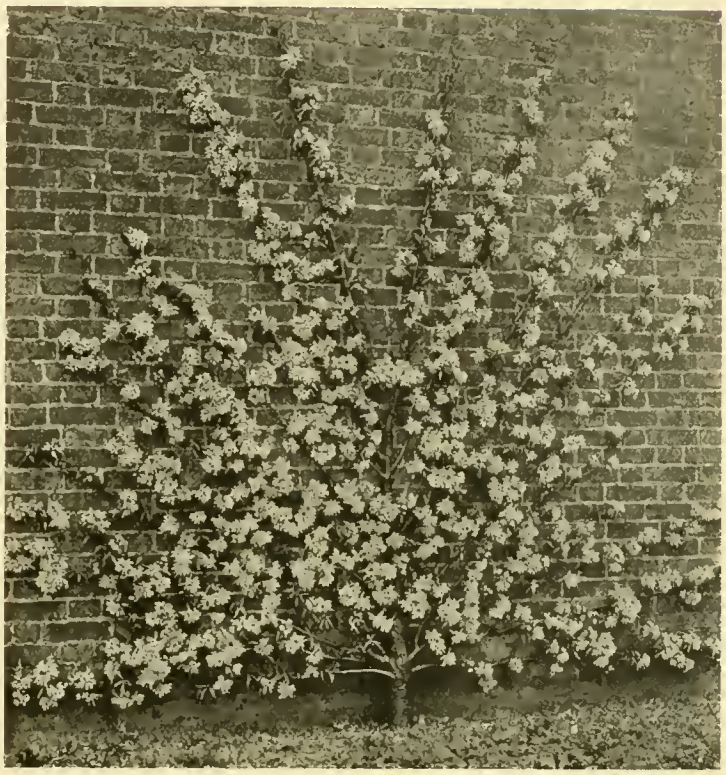
I.—A WELL-TRAINED PEAR TREE IN THE ROYAL GARDENS, WINDSOR.

TRAINED FRUIT TREES AT FLOWERING TIME.

When fruit trees are in flower it is an anxious time for the fruit-grower. An abundance of blossom may be a hopeful sign; but, alas, how often a good promise has been followed by a paucity of fruit! The havoc that may be wrought through frost in a single night is only too well known. Judging by recent observations, however, the Apple-sucker, or Psylla, is responsible for much injury to Apple blossom, while a great deal of damage usually attributed to frost is due to a bacillus, so far imperfectly understood, which causes the flowers to blacken and fall off. So far as the Apple-sucker, or Psylla, is concerned, we refer readers to The Garden for March 8, containing the life-history of the pest, together with numerous illustrations. The Apple-sucker is a tiny creature which attacks the flowers as they begin to expand, and the dead flower-trusses will hang on the spurs for a long time. This pest has been kept in check by spraying with a mixture of quicklime and salt when the trees are dormant, followed by a decoction of Tobacco at the time of the bursting of the buds. Green fly and the caterpillars of both the winter moth and the Codlin moth are likely to prove troublesome, but these may be kept in check by spraying with a solution of arsenate of lead (2lb. to fifty gallons of water) soon after the petals fall. Arsenate of lead has been found of greater value than Paris green, and the latter is being discarded in favour of the former by many of our large fruit-growers.

At one time fruit trees were trained with greater care than they are to-day. Gardeners of the old school took the keenest pride in this work; but now it is only in well-ordered gardens that one finds trees trained in the same skilful manner as they were a few decades ago. In a great measure this is due to nurserymen, who are anxious to make saleable trees in too short a space of time, whereby the foundation of the trees is seriously impaired.

The three accompanying illustrations depict well-trained fruit trees in the Royal Gardens, Windsor. In each case it will be noted the tree is full of fruiting wood, and the trusses of bloom are seen from the base to the top of each trained branch. This point is well portrayed in illustration No. 2, showing a shapely tree of Pear Winter Nelis in full bloom. Here there is as much bloom in the centre of the tree near to the main stem as there is on any other part of the tree. Now, it is only trees well trained in early life that give such satisfactory results.



2.—PEAR WINTER NELIS WITH A FINE SHOW OF BLOOM.

Trained trees require constant care and attention at all times, and at the present season there is much to attend to. Should a leading shoot be making luxuriant growth at the expense of another, it is advisable to slightly bend it down, for this will have the effect of checking the growth. If, on the other hand, a shoot is weak, it may be trained up for the time being, and, having made satisfactory growth, it may be brought to its correct position. Young growths, particularly on Peaches and Nectarines, require thinning and regulating, the remaining growths being tied and nailed up in position. Very shortly the thinning of stone fruits may be carried out, so as to secure an even distribution. In doing this it is advisable to first of all remove imperfect and badly-placed fruits, but it is not wise to hasten the work of thinning until one is sure of the fruits that are set. With trained Pear trees it is customary in some gardens to wash them well down with a hose or garden engine when the fruits are set, and the practice has much to commend it, for it is a good method of removing imperfectly-set fruits.

Fig. 1 on the page opposite depicts a remarkably well-trained tree furnished throughout with fruiting spurs. The wire trellis over which fruit trees are trained (see fig. 3), is one of the features of the famous Windsor gardens. A low trellis, clothed mainly with Pears, runs either side of the central walk in the kitchen garden. It is a feature that might well be adopted in other gardens. In regard to wall-trained trees, it is well to bear in mind that the walls keep off a great deal of water, and the trees are often dry at the roots, even after heavy rains.

3.—THE METHOD OF TRAINING A FRUIT TREE OVER A WIRE TRELLIS.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Early-Flowering Chrysanthemums.—No time should now be lost in getting these planted, whether they are intended for beautifying the garden or for cut flowers. It is not necessary to plant in richly-manured ground, but there should be sufficient nourishment in the soil to maintain a steady growth throughout the summer, giving a little further nourishment just prior to the flowering period.

Planting in Borders.—The plants make a good display in the borders when planted in fairly large clumps of from three to ten plants; but such large clumps can only be utilised when the borders are wide, and consideration should be given in selecting the colours to harmonise or contrast with the other occupants. For cutting purposes they should be planted in beds about six feet wide, where they can be easily looked after during the summer and covered, if necessary, during the blooming period, allowing from 18 inches to 2 feet between the plants, according to the variety.

Summer-Bedding Plants.—Should the weather be favourable, some of the more hardy plants, such as Ivy-leaved Pelargoniums, Marguerites, or even Zonal Pelargoniums, properly hardened, may be removed from the frames to a sheltered position out of doors, though it may be necessary to have light tiffany at hand in case of late frosts. This gradual hardening off will make room for the more tender occupants of the houses and frames, many of which it may be unsafe to remove to the open air till the end of the month. Zonal Pelargoniums and Fuchsias that have filled their pots with roots should not be neglected in the matter of manure, and, when handling, a pinch of Clay's Fertilizer should be given to each of them, thus keeping them in good condition till planting-time.

Plants Under Glass.

Roses.—Climbing Roses in pots should be well looked after in the way of water and manure. Precautions must also be taken to keep them free from fly by fumigation or spraying. At this season full sunlight is not necessary, and a little shading should be given to keep the temperature down and to prevent loss of colour in the blooms.

Hybrid Perpetuals and Hybrid Teas from which the blooms have been cut may safely be removed to the open air. Many of the plants will, no doubt, have made a fair quantity of secondary growth, and if the plants are carefully looked after, this will provide a certain amount of bloom before the outdoor Roses come on to flower.

Gloxinias coming into flower should be afforded a slightly lower temperature than when growing, also a less moist house would be advantageous. Seedling plants must be kept growing and potted on as they require it, though 4½-inch pots should be large enough to flower them in the first season.

Tuberous Begonias started early in March should now be fit for transferring to their flowering pots, a rich, open compost made fairly firm in the pots suiting them well. A certain amount of humidity in the atmosphere of the house and a little shade are two points that must be observed to attain good results with these plants.

The Kitchen Garden.

Peas.—Many of the midseason Peas will now be fit for staking, and in the event of a wet season the height of the stakes should not be stinted. Slope the top of the stakes slightly outwards, thus avoiding the trouble of the haulm growing through and hanging down, which is often the case when the tops of the stakes meet.

Late Peas.—In some soils it is advisable to sow late Peas on the top of well-prepared trenches, the extra manure and deep working tending to tide them over a very dry spell. In this district Autocrat is by far the best late Pea, and, being very robust in habit, the plants should be thinned to about four inches apart when about two inches high.

Broad Beans planted out of pots are sometimes apt to be blown or topple over when the pods commence to swell, so it is advisable to stake or run a string from end to end of the rows to keep the plants upright. The early batch should be topped as soon as sufficient pods are set to form a crop, and a dressing of artificial manure will greatly help them in this stage.

Seedling Onions, Carrots, Beet, Turnips and Brassicas should be systematically sooted to ward off slugs and attacks of fly, and as soon as they are nicely through the soil the hoe should be run between them, repeating this operation as often as may be necessary to keep the soil from becoming beaten down or clogged, as in this condition seedlings are very slow in making growth.

Fruits Under Glass.

Thinning Grapes.—The matter of thinning in successional houses must be proceeded with, as a few days' neglect may mean that the berries will become tight, and the thinning operation is much more difficult and the berries likely to be injured by thrusting the scissors between them.

Midseason and Late Grapes naturally need rather more thinning than the earlier varieties, and round-berried varieties more than oval ones. Alicantes and any other varieties with heavy shoulders should be carefully tied up before thinning, and I would again remind readers that then the berries on the shoulders may be left rather more closely than the rest of the bunch, so that as the berries swell they are just thick enough to keep the top berries in position, and so improve not only the shape but the weight of the bunch.

Tomatoes.—Early batches are fast swelling their fruit, and if the plants happen to be in 9-inch pots, the point of the shoot should be pinched out after they have set about five good trusses, this being quite sufficient for a pot of this size, unless the roots can get into the soil or turves which may be placed beneath the pots. Such a stopping naturally increases the weight of the trusses as well as inducing early ripening, which is very essential for the earliest crops.

Successional Batches must be got into their fruiting quarters as they become fit. If planted in borders in the houses, too great a root-run is not necessary, as it often induces too free growth. A few inches of soil, with top-dressings as the plants make growth, is the best system to adopt. Keep the plants fairly dry till the first trusses of bloom begin to open, when they may have rather more liberal treatment.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Calceolarias.—If the weather is good and the ground clear, Calceolarias may now be planted with safety, although it might be well to delay dealing with C. amplexicaulis for ten days or so.

East Lothian Stocks.—These showy annuals may now be planted out if the weather is favourable. See that the ground has a good tilth and lift the plants carefully with a trowel, with which they should be planted in preference to a dibber. Having few fibrous roots, Stocks should be watered immediately after being planted. It is a good plan to push a twig of Yew or Thuya up the spout of the watering-pot to break the force of the flow, and then water without a rose.

Sowing Biennials.—Some people prefer to sow Wallflowers and other biennials in June; but if one desires to have strong plants either for autumn or spring planting, I would recommend sowing at the present time. Among Wallflowers, Vulcan for a red and Golden Monarch for a yellow are unexcelled, while Eastern Queen, Ruby Gem and Primrose Dame are excellent in their way. Among Forget-me-nots, Royal Blue and Myosotis alpestris Victoria are hard to beat. In selecting Sweet Williams for massing, selfs are the best. Sutton's Pink Beauty and Sutton's Scarlet, with a good crimson, will satisfy most tastes. Other biennials to be recommended are Canterbury Bells, Carnation Grenadin, and Anchusas italica Dropmore variety and Opal. It is too early to sow Hollyhocks yet.

The Reserve Garden.

Preparatory Work.—See that the ground is in a fit condition for the reception of the various subjects to be planted during the next few weeks. Where Primulas and Polyanthuses are to be planted for the summer, a fair amount of humus will be necessary, either in the form of well-rotted manure or half-decayed leaves.

Planting Bulbs.—Good varieties of Narcissus and Tulip that have done duty as spring bedders should be run into nursery lines rather thickly, to be lifted and dried for future use when the foliage has died down.

The Rock Garden.

Half-Hardy Plants.—The bulk of our *bona-fide* alpine plants bloom in spring or early summer, leaving the rock garden rather grey and uninteresting during the late summer and autumn months. This can be remedied if a pocket here and there is left vacant for suitable summer-flowering subjects, and these may either be annuals or half-hardy perennials. Among suitable annuals I would suggest the following: Abronia umbellata, Acroclinium, Alyssum minimum, Limnanthes Douglasii, Linaria in variety, Matthiola bicornis, Nemesia in variety and many others. Among perennials might be mentioned Cupheas, Fuchsia procumbens, Alternantheras, Echeverias in variety and Lobelias.

Plants Under Glass.

Zonal Pelargoniums.—Spring-struck stock for autumn flowering should now be removed to a cold frame and be gradually hardened off. Older plants for summer display should be pinched for the last time.

Seedling Francoas.—Where a batch is being raised from seed, the plants will now be ready for potting up into 3-inch pots, after which they should be removed to a cold frame.

Rehmannia angulata Pink Beauty.—This useful conservatory plant will now require staking, for although severely pinched, as it ought to be, it grows fairly tall. Only slender stakes, such as Bamboo tips, should, however, be used to support its slender stems.

Fruits Under Glass.

Stopping Vines.—This work must have close attention, both for the conservation of energy and the admission of sufficient light. Sublaterals should not be allowed to develop beyond one joint.

Aerial Roots of Vines.—These may be induced from various causes—too hard forcing, excess of moisture, or insufficient ventilation. Their appearance should be a warning to revise the general *régime*. Where the foliage is being maintained in a leathery condition, aerial roots will not give much trouble.

Melons.—Plants swelling their fruits should have abundance of water at the roots, with occasional doses of liquid manure. A mulching of old Mushroom manure will prove highly beneficial. Attend closely to pollination where required.

The Hardy Fruit Garden.

Loganberries.—Attention must be given to tying in the young shoots at an early stage, as they are easily damaged. The same remark applies to Raspberries, especially where they are trained to a trellis.

Hoeing.—The Dutch hoe should be kept going freely, for by doing so one aerates the soil and keeps down weeds by one effort.

The Vegetable Garden.

Broccoli.—It will be a great advantage if the young plants are pricked out about three inches apart, instead of leaving them in the seed-bed to become drawn and weakly. As soon as the present season's crop is cut, the ground should be cleared, manured and dug finely to be ready for a summer crop. Leeks or late Peas form a good succession to Broccoli.

Earthing-Up Potatoes.—Prior to commencing this operation the ground should be forked over between the drills, as the Potato enjoys a free root-run. Earthing-up should be done twice, drawing up a little earth when the stems are about six inches high, and completing the operation a fortnight later.

Broad Beans.—These should be earthed-up when about a foot high. It is sometimes asked, "What is the utility of this earthing-up?" and I reply, "It steadies the plants and raises the temperature of the soil." A late planting may yet be put in, but no time must be lost.

Thinning Turnips.—Early crops should be thinned out first to about two inches apart, every alternate plant to be thinned out a fortnight later. When pulling commences, thin out again to allow the remainder to swell out.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Primula × La Lorraine.—A hybrid said to have originated from the crossing of P. Veitchii and P. cortusoides amœna, the new-comer being intermediate between the parents. P. Veitchii, itself of the cortusoides set, appears in the hybrid to have influenced leaf-growth and woolliness with compactness of flowering, the other parent having given of its colour and size of blossom individually. The flowers are rose-coloured, almost Rose du Barri shade. Only a small plant was exhibited, and though remarkable for freedom of flowering, will doubtless presently reveal a fuller development. It is of Continental origin. Shown by Mr. M. Prichard, Christchurch, Hants.

Æthionema armenum Warley Hybrid.—In effect this pretty alpine sub-shrub is that of a rosy red flowered, compact-growing coridifolium (Iberis jucunda) rather than that of the species to which it is here referred. In any case, it is a delightful plant of about six inches high, the flowers arranged in close, terminal, rounded racemes. From Miss Willmott, Warley Place.

Rose Erna Teschendorff.—A crimson-flowered Polyantha Rose after the style of Jessie, but of a deeper crimson than that variety. Great things are said of it, though British gardeners at least would have preferred a more easily pronounceable name. This pretty Rose has repeatedly been shown this year by Mr. George Prince, Longworth. It was presented on this occasion by Mr. Profittlich, Twickenham.

Wallflower Primrose Monarch.—This has pale yellow flowers of large size. The habit is dwarf and compact. Unfortunately, the true Wallflower fragrance is quite lacking in the plant. From Mr. Moss, Kelvedon, Essex.

Narcissus Venetia.—A delightful triandrus hybrid of singular purity and grace. Many of the scapes were two-flowered, the new-comer showing a plant of considerable vigour. Individually the flowers were about three and a-half inches across. From Mr. W. B. Cranfield, Enfield.

Narcissus Evangeline.—A Leedsii variety which has come in for honours rather late in the day. Notwithstanding, it is a good and desirable sort, holding its own in any collection, and cheap withal. It is a somewhat rounded, shapely flower, 3 inches across, and of ivory white colour. From Mr. H. N. Phillips, Olton.

All the above were shown before the floral committee of the Royal Horticultural Society on the 29th ult., when the awards were made.

THE EDITOR'S TABLE.

Star-Flowered Cinerarias.—From Messrs. Jarman and Co., seed-growers and nurserymen of Chard, Somersetshire, we have received a great variety of the Star-flowered Cinerarias. The flowers have quilled and in some cases curiously twisted ray florets, and are popularly known as Cactus Cinerarias. A very fine range of colour, including clear blues and soft pinks, was included, and Messrs. Jarman, who grow the plants extensively for seed, inform us that the strain is perfectly fixed. For greenhouse and conservatory decoration in early spring this race of Cineraria stellata is sure to be widely grown when better known.

THE FRUIT GARDEN.

SEASONABLE NOTES ON FRUIT.

Caterpillars on Gooseberries.—It is of paramount importance that amateurs shall maintain the keenest watch on their Gooseberries, or the probabilities are that they will wake up to find the plants so terribly infested with caterpillars that the most drastic steps will have to be taken to ensure their complete extirpation. These enemies are rapid and industrious workers, and while it is acknowledged that the Gooseberry is an accommodating plant, with remarkable powers of recuperation, it is impossible for it to sustain such an attack without serious debilitation. Therefore watch, and the instant an enemy is seen destroy it. There are preparations advertised in The Garden that will most admirably answer the purpose for which they are advised, or reliance may be placed on lime or white Hellebore powder dressed on when the leaves and stems are damp after rain or dew. Repeated applications will be required to keep everything in order.

Weak Trees.—Fruit trees that are not making as much progress as one could desire ought to be given special assistance. The trouble with those who are not experienced in fruit culture is, as a rule, to check them in their desire to feed, with a view to producing a tree that is conspicuous for its handsomeness; but, unfortunately, such a condition spells unfruitfulness in many instances, and the grower is therefore going on the wrong track. Where, however, a tree is stunted, it may be most advantageously assisted to make wood, as this will in due course spell more profit in the form of excellent fruit. Nothing strong must be given, and whatever is applied should be given when the soil is moist to a depth of not less than 2 feet.

Raspberries.—If abundance of growths may be accepted as indicative of health and vigour in the Raspberry plantation—and there is no reason why they should not—then the plants are now in fine condition, and will yield splendid crops this year and build up strength to bear heavily again next year. It is, however, important that thinning shall be put in hand. It is early as compared with most seasons, perhaps, but this does not alter the fact that it is desirable to put it in hand. Remove all growths that cannot have permanent value in the beds, since the longer they remain, the more food they will draw from the valuable parts of the plants, and the more light and air they will obstruct from the fruiting canes. If the plants have not been mulched, remove all weeds and do the work at once.

Cropping Young Trees.—It is unwise to crop a tree in the first season after planting. One must acknowledge, of course, that the temptation to do so is strong, but it results in stunted growth and consequent failure to build up a tree that will bear profitably for many years. Amateurs should harden their hearts and remove any fruits that are seen, in the certainty that it will be to their ultimate interests to do so. A fruit tree cannot properly establish itself and develop crops at the same time, and the former is the particular object for the first season or two; afterwards the fruits will come.

Mulching Strawberries.—It is necessary that the mulching shall be applied to Strawberry plantations as soon as possible, especially where stained straw is to be utilised. One would not advocate the use of litter containing a large proportion of manure, because it might not become scrupulously clean before the crop began to swell for ripening, but with slightly-stained material there need be no fear or hesitation on that score. A preliminary to the spreading of the litter is thorough hoeing, as well to remove weeds as to admit warm, fresh air to the roots. Any weeds that cannot safely be removed with the hoe ought to be pulled out by hand. An application of old soot in sufficient quantity to darken the surface often does great good at this time of the year, or, if it is deemed that there is a real lack of readily available food, one of the many excellent concentrated plant fertilisers specially recommended for Strawberries may be used with decided advantage; but care must be exercised to guard against an excess, or far more harm than good will inevitably follow. H. J. W.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only and addressed to the* Editor *of* The Garden, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

PRUNING ROMNEYA COULTERI (*H. G. S.*).—It is immaterial whether you cut down your plant of Romneya Coulteri to the ground or not. It will not be killed by cutting it down, but as the branches are quite healthy there is no reason why it should be so pruned. As a rule, the flowers are rather smaller from plants which have been left unpruned than from those which have been pruned hard, but a great many more flowers are often borne by unpruned specimens. We therefore advise you to simply shorten any weak side shoots and the point of branches which may be dead. A surface-dressing of well-decayed manure may be given with advantage.

SEEDS FOR SHRUB BORDER (*Dolphin*).—It would have assisted us in giving a selection had you stated the width of the border, since the plants suited to one 3 feet wide would be a little out of place in one twice that width. There is, however, a great variety, ranging from those of a few inches to others of 6 feet or more; of dwarf ones, Nemophila insignis, Candytuft in colours, Godetia, Linum sanguineum, Phacelia campanularia, Alyssum maritimum, Dianthus Heddewiggii, Leptosiphon, Limnanthes Douglasii, Schizanthus, Love-in-a-Mist, Alonsoa Warscewiczii, Dimorphotheca aurantiaca, Convolvulus minor, Chrysanthemum carinatum, C. coronarium (both in variety) and many more. Poppies, too, would be showy, and Sweet Sultans would give colour and fragrance. The whole of these could be sown in the open ground, and none exceeds 2 feet in height in the ordinary way.

ANEMONE HEPATICA (*E. V.*).—It is doubtful whether you will be able to obtain seeds of Anemone Hepatica, although one of the large firms of seedsmen, such as Veitch, Webb, Sutton, or Carter, may be able to procure them for you if they do not catalogue them. You would, however, do much better by obtaining the dried roots later on and starting with them. They may be secured through any of the large bulb-dealers. Suitable bulbs for the ground beneath your Oak and Birch trees are Narcissi in variety, particularly the varieties Emperor, Empress, Leedsii, Poeticus and its different forms, Barri conspicuus and the common double Daffodil. You may also plant Crocuses of various kinds and colours, for they continue to spread and flower well for many years, even where the grass is dense. Where the grass is rather thin, you may also plant Chionodoxas and Snowdrops. The ordinary common Bluebell and the Spanish Bluebell (Scilla hispanica) are also suitable.

PLANTING FLOWER-BEDS AND VASES (*V. W. B.*).—We are pleased to hear of the complete success of the Tulip arrangement in the Italian garden. With respect to the summer beds, we think you have rather overdone the Aubrietia græca, and between this and the flowering of the Lilies in September there will be a big gap. Some Tufted Pansies would have given a more profuse flowering.

The suggestions for Beds A and B will do admirably. For Vase C you might get a big Fan Palm (Latania borbonica), and as colour is valuable at this point, bed it around with brilliant carmine Celosias over a groundwork of Saxifraga hypnoides, treating the other vase similarly. For Bed D we think you had better apply to such Begonia specialists as Messrs. T. S. Ware, Limited, Feltham, or to Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, both firms having strains of these flowers of the highest excellence. These varieties are usually selected to colour by the firms named, and are graded in shades throughout.

ARRANGING BORDER (*Regular Reader*).—The size of the clump is entirely optional, though in a border of the dimensions you name it would be best to arrange irregular groups throughout, starting, say, with 2-feet-wide masses at the front and 4 feet wide for the others. The good effect at flowering-time will, naturally, depend upon the informality of the groups and the way the colours are blended. In setting out the perennials, for example, avoid arranging colours that approximate to each other. Since of necessity the strong would overpower the weak, two Delphiniums or two Phloxes whose colour shades are near akin should be well separated, and the same may be said of Michaelmas Daisies and many others. As the border is an important one, you ought really to plant to a plan previously arranged, so that the colours would blend. In setting out the groups, carefully avoid repetition, whether of size or form. The groups, whether annuals or perennials, might extend longitudinally to 6 feet or more, running down from a 4 feet boldness to quite a narrow finish. In this way you would create variety of form, a very desirable thing.

TREES AND SHRUBS.

MICROMELES FOLGNERI (*J. B.*).—Micromeles Folgneri is an ornamental tree allied to the Pyruses. It is a native of China, and was introduced to this country about twelve years ago. Of elegant habit, it has pendent branches which are clothed with silvery leaves and bear flattened heads of white flowers. The small fruits differ from those of Pyrus, principally by having no calyx lobes to the apex.

AZALEAS NOT FLOWERING (*E. D. L.*).—The Azalea indica shoots sent for examination are too weak to produce flower-buds; moreover, the leaves are very dirty, being infested with thrips. Weak growth may have been caused by the cold, sunless weather of last summer, or the plants may not have been fed sufficiently last year. The reason for the insect attack is probably due to the plants being kept in too dry and too warm an atmosphere. You had better fumigate the plants with Tobacco or one of the commercial nicotine preparations fortnightly for a time, or syringe them with a nicotine solution now and then. Give weak manure-water occasionally while the new growth is being made, providing the plants are not repotted.

LICHEN ON AZALEAS (*Rema*).—The moss and lichens on your hardy Azaleas can be destroyed by spraying the bushes during the winter with a caustic wash. This may be made by taking 2lb. of caustic soda (98 per cent.), half a pound of soft soap, five pints of paraffin and ten gallons of soft water, mixing them as follows: Dissolve the soft soap in one gallon of boiling water, and while hot add the paraffin and stir into a creamy liquid. Dissolve the caustic soda in nine gallons of soft water, and into the solution pour the paraffin emulsion and stir thoroughly. The mixture may only be used when the bushes are dormant, as the soda will burn expanding buds and leaves. India-rubber or leather gloves should be worn while the wash is being applied, and a calm day should be selected for the work.

ROSE GARDEN.

PARAFFIN EMULSION FOR SPRAYING ROSES (*L. D. C.*).—This can be made as follows: Dissolve one quart of soft soap in two quarts of boiling soft water. Remove from the fire, and while still boiling hot add one pint of paraffin oil and immediately churn the mixture with a small hand syringe. In five minutes a perfect emulsion will be obtained. For use dilute with ten times its volume of water.

ROSE HIAWATHA WITH DISEASED GROWTHS (*O. W.*).—The warty-like growth upon the shoots of some varieties of wichuraiana Roses is supposed to be a fungus peculiar to the tribe. We have not seen any serious harm arise from its presence, and as the growth is one of the best upon the plant, we should advise you to rub off the warty growth and paint the part over with some painter's knotting or liquid grafting-wax.

REVISING ROSE PLAN (*R. S.*).—There have been many lovely introductions during the last seven years, so that the plan so carefully prepared by our valued contributor Mr. A. R. Goodwin in 1906 will, of course, be open to revision. We would suggest substituting Cheshunt Scarlet, Irish Glory, Camoens, Kaiserin Augusta Victoria, Marquise de Salisbury, Mme. E. Boullet, Earl of Warwick, Senateur Belle, Mme. Edmée Metz, Elizabeth Kitto, Farbenkönigin and Anne Marie Soupert by the following in their same order: General Macarthur, Lieutenant Chaure, Mrs. Alfred Tate, Molly Sharman Crawford, President Vignet, Sunburst, Mrs. W. Christie Miller, Mrs. Aaron Ward, Mme. Segond Weber, Lady Alice Stanley, Chateau de Clos Vougeot and Laurent Carle. 2. The plan could be reversed to east and west. 3. Climbing Roses would look best quite on the outside of the plan. A series of pillars connected by ropes or chains would have a nice effect. 4. You may carpet the beds with Violas, but have one colour to each bed. The blues go well with the yellow Roses, white and cream with reds, and so on. By drawing your plan and painting in it the approximate colour of the Roses, you could have a nice colour-scheme with the Violas.

THE GREENHOUSE.

CHERRY-BLOSSOM FORCED (*A. H.*).—In common with nearly all hardy fruit trees, the flowers of the Cherry can be brought on in advance of the normal time if branches are cut and put in water in a warm greenhouse until the bloom is approaching perfection. The blossom is all the more readily produced if the cut end of the stem is sliced up across and across and the bark raised in three or four strips for a couple of inches, or if the whole end is beaten and crushed with a hammer or mallet on a block. The object of this is to expose a larger amount of woody fibre to the action of the water. There is no need to add charcoal if the water is changed every two or three days.

JAPANESE MAPLE (*A. L.*).—Judging by the leaves sent, your Japanese Maple seems to be in a sorry plight, and we are doubtful if it is not too far gone to revive it. These dwarf trees are the result of what may be termed systematic ill-treatment; that is, they have insufficient root room to allow for their natural development, and the soil used is poor in quality. The result of this is that the plant gradually falls into a debilitated condition and is unable to assimilate powerful foods. We should be inclined to turn the plant out of the pot and examine the condition of the roots. It is probable that all the soil will come away, in which case the plant should be repotted in some good sweet compost. Then place it in a frame kept rather close and shaded, give just enough water to keep the soil moist, and spray overhead two or three times a day.

MISCELLANEOUS.

DUCKWEED IN PONDS (*F. G.*).—It is improbable that the introduction of gold-fish or carp will keep your ponds clear of Duckweed, but it might be worth trying. The best plan is to keep the Duckweed raked out as much as possible. This may be done by lining an ordinary sieve with coarse canvas and attaching it to the end of a pole, so using it as a skimmer. In case there is any slime on the water, treat the ponds with copper sulphate as advised to Mrs. E. Fryett in our next week's issue.

APPLICATION OF BASIC SLAG (*Amateur*).—Basic slag is a valuable manure, as it supplies lime (which counteracts acidity) and phosphates to the soil in a form which plants can use after a time. But it is slowly soluble only, and must be used only in autumn on that account. We should recommend the sowing of the slag, at the rate of, say, 3oz. to 4oz. to the square yard of the surface, just before digging the soil in the autumn. It gives the best results on clay soils, or those containing a good deal of moisture.

LIVING FROM THE LAND (*G. W.*).—You state your case much more lucidly and satisfactorily in the last letter. It is true that gardeners are often so situated that the education of the children is difficult and sometimes impossible; but the very fact that there are children who must be clothed and fed as well as educated must make one pause in advising the step you propose. You have knowledge and practical experience, and these things spell much. Have you the determination to work from dawn to dark for next to nothing, for it means that until your crops are at perfection? Have you a wife who will be ready—nay, anxious—to help you in your work both before and after the household tasks are commenced and finished? If you can answer the question about yourself with an emphatic "Yes," and that about your wife with an equally emphatic "Yes," go ahead and you will succeed. If you have even the slightest doubt on either or both points, rest contented where you are, for the contemplated chance can only end in disaster. If you desire to proceed, keep enough cash for six months, and bear in mind the importance of fast-growing plants which will bring early and certain revenue. The district you mention is excellent.

VARIOUS QUESTIONS (*D. H. S. S.*).—There is really very little difference in value between tarred twine and shreds for securing fruit trees to walls; but twine is, of the two, likely to cause more injury to the trees, for if it is tied rather tightly in the first place and not looked to in a few months' time, it is likely to cause injury by cutting into the branches. Narcissus pallidus would probably grow under Yew trees in places where the shade is not very dense. It is, however, a matter for experiment. The plant does deteriorate in some gardens, as you suggest, especially when planted in permanent positions. The common double Daffodil and Emperor thrive among St. John's Wort. It would not, however, do to cut the St. John's Wort down before the bulbs begin to grow; rather, plant the bulbs in clumps and let them grow through the Hypericum, cutting the latter down about the end of March or early April. It is probable that your soil is too cold and heavy for Spiræa Thunbergii. It thrives most satisfactorily in a moderately light, well-drained, warm loam, and flowers better after a warm than after a cold summer. Aspect is not of great moment. You cannot do much good by giving your Magnolias chemical manures. You would do better to remove some of the chalky soil from about the roots and replace it with good, sweet loam into which a little peat and leaf-mould has been mixed.

NAMES OF PLANTS.—*W. T.*—The Bird Cherry (Prunus Padus).——*A. S. F., Lynmouth.*—Rhododendron indicum amœnum.——*Miss I. V. C., Hants.*—Amelanchier alnifolia.——*Mrs. H. T. B., Bromyard.*—Sedum roseum.——*J. C. H., Blairgowrie.*—Pulmonaria officinalis.——*G. D., Poole.*—Prunus Padus (the Bird Cherry).

SOCIETIES.

NATIONAL ROSE SOCIETY.

For the first time in the history of this society a spring show of Roses was held this year. The exhibition took place on May 1 in the Royal Horticultural Society's Hall at Vincent Square, and by a general consensus of opinion it was considered a great success. All of the exhibits were competitive, and competition was keen in most of the classes. Throughout the afternoon the hall was thronged with visitors, all deeply interested in this first spring show of the Queen of Flowers.

NURSERYMEN'S CLASSES.

Class 1, for a group of pot Roses, comprised the finest groups in the exhibition. The first prize and gold medal fell to the lot of Messrs. Paul and Son, The Old Nurseries, Cheshunt, who arranged a superb collection of such varieties as J. B. Clark, Marquise de Sinety, Cherry Ripe, Mrs. Aaron Ward, Mme. Edmée Metz and Mme. Segond Weber as a groundwork, arising from which were weeping standards of Lady Gay, Cuckoo's Mate and Minnehaha, with columns of Dorothy Perkins and Excelsa in the background. The second prize went to Messrs. Hobbies, Limited, Norfolk Nurseries, Dereham, for a massive group of ramblers and weeping standards, which, unfortunately, were much overcrowded. Two trained specimens of Tausendschön, profusely flowered, were among the best things in the show, but were somewhat lost in this overcrowded group. Mr. A. Turner, Slough, was third.

In Class 2, for a group of pot and cut Roses, Messrs. A. J. and C. Allen, Earlham, Norwich, won the first prize in keen competition. The weeping standards of Excelsa, Dorothy Perkins and White Dorothy were all that could be desired. Second, Messrs. B. R. Cant, Old Rose Gardens, Colchester, whose group contained the showy Austrian Yellow and a new climbing Rose named Sweet Pea. Third, Messrs. William Cutbush and Son, Highgate, N., for a group in which the Polyantha Roses Jessie and Mrs. F. W. Flight were much in evidence.

There was keen competition in Class 3, for a group of cut Roses in a space 20 feet by 3 feet, resulting in equal firsts and silver medals for Messrs. G. Mount and Sons, Limited, Canterbury, and Mr. G. Prince, Oxford. Mr. Prince's ramblers were remarkably fine, and Rayon d'Or and Lady Hillingdon were used with telling effect. Messrs. Mount's ramblers were not good, but this was more than compensated for by the superb collection of Sunburst, Richmond, Mrs. Herbert Stevens and Mrs. John Laing, all shown in the height of perfection. The third prize was won by Messrs. Benjamin R. Cant, Old Rose Gardens, Colchester. Silver Moon, a large white single, was much admired in this group.

In Class 4, for eighteen standard Roses, twelve varieties, the first prize and silver-gilt medal were won by Messrs. Paul and Son; second, Mr. A. Turner, Slough.

Messrs. Paul and Son secured the first prize and were the only exhibitors for nine weeping standards in pots. The same firm was first for Dwarf Polyantha Roses in pots; second, Mr. A. Turner.

Messrs. A. Dickson and Sons, Newtownards, were awarded the first prize and gold medal for nine pots of new Roses. Two superb novelties from this firm received gold medals, and will be found in the list of new Roses. The same exhibitors were first for twelve blooms of new Roses.

CUT BLOOMS IN EXHIBITION BOXES.

In Class 8, for thirty-six blooms in not fewer than twenty-four varieties, the first-prize collection from Messrs. B. R. Cant aroused the admiration of all who saw them. Among the best blooms were Bessie Brown, Mrs. E. Mawley, Claudius, Souv. de Pierre Notting, Suzanne Marie Rodocanachi, William Shean and Colcestria. There was no second prize awarded.

Messrs. A. Dickson and Sons were first for eighteen blooms, followed by Mr. G. Mount.

There were no entries in the class for twelve blooms of Maréchal Niel.

AMATEURS' CLASSES.

For a group of pot Roses in a space of 40 square feet, the first prize and gold medal were secured by Mr. J. Brown, Longfield, Heaton Mersey, Manchester, with a remarkably well-grown collection, including Mme. Ravary, Mrs. R. G. S. Crawford, Mrs. John Laing and Richmond, backed with pot ramblers. The plants were healthy and well flowered, and the group was in every way a credit to this exhibitor.

For a group of cut Roses 4 feet by 3 feet, Mr. Gordon Clark of Leatherhead secured the first place and a silver-gilt medal for a meritorious group, Mr. H. R. Darlington, Potter's Bar, being a good second.

Mr. Darlington was first for six blooms in not fewer than four varieties, with The Bride, Bridesmaid, Dean Hole and Souvenir de President Carnot.

For six blooms of any one variety, the first place was secured by Mr. C. S. Gordon Clark, Leatherhead, with a fine half-dozen of Frau Karl Druschki.

For a basket of cut Roses, Mr. Conway Jones of Gloucester was a capital first; Mr. J. Brown, Heaton Mersey, second. Mr. Brown was first in a similar class for any number of varieties, and again for five distinct varieties in vases.

For a vase of cut Roses, open to ladies only, Miss West, Wray Park, Reigate, was first with a fine vase of Richmond. Mrs. Courtney Page, Enfield, was second with Sunburst.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, *Tavistock Street, Covent Garden, W.C.*

NOTES OF THE WEEK.

Our Special Chelsea Show Number.—In response to the request of numerous readers, who much appreciated our Chelsea Show Number last year, we shall next week publish a Special Double Number containing an illustrated review of the Royal Horticultural Society's Spring Show to be opened at Chelsea on May 20. This issue will be twice the ordinary size, and, in addition to the report of the show, will contain a number of other special features and a coloured plate of the new Rose Danae. The price of this double number will be twopence. As there is certain to be a large demand, we advise those who require extra copies to place their orders well in advance.

Silver-Leaf on Portugal Laurel.—Numerous specimens of Peaches, Plums and Nectarines attacked by silver-leaf have been sent us for inspection from various parts of the United Kingdom. Not uncommonly this disease makes its presence felt on the Portugal Laurel, and without doubt this is a common seat of infection. Where silver-leaf is present in Portugal Laurels, all infected branches should be cut clean out and burnt without delay.

An Interesting Annual Campanula.—As the number of annual Campanulas is somewhat limited, such an interesting one as C. macrostyla should receive more attention than it does, and one wonders why it is so little grown. The dull purple flowers, with their curiously-veined markings and prominent styles, make them very attractive. It is quite hardy, and the seeds, which can be purchased quite cheaply, should be sown now where the plants are intended to flower.

Fruit Prospects for 1913.—Judging by the monthly agricultural report just published by the Board of Agriculture, the prospects for fruit this year are good. Blossom nearly everywhere has been abundant, and in most localities severe frost has not been experienced. In those districts where frost did occur about the middle of April, it does not appear to have done any considerable damage. From observations that we have made in the Eastern Counties, Plums have set well, notwithstanding the biting east winds that were experienced when the trees were flowering.

The Southern Heath.—A native of Spain and Portugal, the Southern Heath, Erica australis, is a delightful spring-flowering shrub. It is one of the taller-growing species, the bushes ranging from 3 feet to 6 feet high, with rich rosy red flowers, brighter than those of the Mediterranean Heath, from which it also differs in being looser in habit. As it is not perfectly hardy, choose a sheltered spot for the plants, and protect them during severe weather with Bracken or similar light material. When only one or two plants are grown, a good position for them is the base of a warm south or south-west wall. E. australis has stood unharmed now for several winters in a large sheltered bed near the Broad Walk at Kew. During April and early May the flowers are best.

Dwarf Brooms for the Rock Garden.—Few plants are more attractive at the present time with their wealth of blossom than the dwarf Brooms, such as Cytisus Ardoinii, C. Beanii and C. kewensis, all of which are excellent plants for the rockery, and if space permits them to ramble about over the stones, they present a charming effect. But if the rock garden is small, the space for them is limited, so that as soon as they have done blooming the wood that has flowered should be cut back to within an inch or so of the previous year's growth, particularly the last two named, as they are of a more rambling nature than C. Ardoinii. This pruning will not in any way prevent them from blooming the following year.

A New Spraying Mixture.—On May 6, Professor Maxwell-Lefroy of the Royal College of Science and Messrs. Merryweather conducted an extensive experiment in Richmond Park for the purpose of demonstrating the value of lead chromate as a substitute for Paris green for killing various leaf-eating caterpillars. The trees selected for the experiment are situated within a short distance of Ham Gate, and from what is known as Ham Cross Plantation. The group contains some 370 trees, which are about eighty-eight years old and about forty-five feet high. Last year they were defoliated by caterpillars, and caterpillars have appeared again this year. Five kinds are at present feeding, two of the most destructive being Tortrix viridana and Cheimitobia brumata. The mixture used consisted of 50 per cent. lead chromate, 25 per cent. soft soap, 2 per cent. gelatine and the balance water. One pound of this was then mixed with thirty gallons of water and applied by one of Messrs. Merryweather's petrol spraying-machines. Professor Maxwell-Lefroy has used this insecticide in India with considerable success, and says that it is as great as a deterrent as a poison.

Orchids in Ants' Nests.—As to the reason why certain Orchids find a congenial home in ants' nests, a note in the May issue of the "Orchid Review" by "Rodway" in the case of Oncidium altissimum is suggestive. After giving a graphic account of an experience in obtaining this plant, he remarks: "On the fork of a tree the Orchid had found a congenial habitat, where it grew and flourished for years, developing a great mass of roots to be occupied by the immense horde of ants, who, in return for house accommodation, undertook to keep off the enemies of the Orchid, of which the cockroach was one of the most inveterate. . . . Is not this one of the reasons why the ants are so ready to take up their abode among the Orchid roots? Where its food was to be found the cockroach would certainly come, and the ant as certainly find its prey." The benefit may be mutual, and the roots of the Orchid may provide a suitable nesting-place for the ants, as is certainly the case with Schomburgkia and Diacrium.

CORRESPONDENCE.

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

A Crippled Pear Tree.—This fine old tree is this year a mass of bloom, in spite of the fact that several years ago it was blown down. I believe it usually crops very well. It is in a field under the shelter of a fell on Lord Muncaster's property in Cumberland.—MARY C. FAIR.

Calceolaria Clibranii. — Extensive use is made of this beautiful Calceolaria in the greenhouse at Kew, where it is just now greatly admired. In one part of the structure a semi-circular group arranged on the floor consists of plants from 3 feet to 4 feet in height and as much through, while in another part a number of smaller examples testify to its value when grown in this way. A notable feature of this Calceolaria is its graceful habit and soft yellow colour.—H. P.

Tulips Growing in Grass.—The following note may be of service to Mr. Jacob, and at the same time of some interest to readers of THE GARDEN in general. A batch of Tulipa sylvestris was planted here (Ken View, Highgate) in grass under an Oak tree about nine or ten years ago. The first three or four years the plants did very well, but latterly they have dwindled in vigour and floriferousness, until this year only four flowers put in an appearance, two of these being rather small. It is only fair to add that no help or encouragement has been given the bulbs since they were planted. They have not been touched in any way. There is no doubt that the drip from the tree whenever rain fell and the exclusion of the sun by the dense foliage have militated tremendously against their success. In fact, I think they can be said to have made a brave fight to hold their own by yielding four scapes this time; for it has been impossible for them to have had any ripening worth speaking about under a tree, added to which have been the continual splashings from all rains. Grown in grass in the open I can believe this variety would succeed quite well.—C. TURNER.

A PEAR TREE IN CUMBERLAND WHICH, THOUGH BLOWN OVER, CONTINUES TO FLOWER AND BEAR FRUIT.

Garden Clubs.—Pleasant it is to see by my friend the Rev. Joseph Jacob's recent article in THE GARDEN, "An Amateur Country Garden Club," page x., issue April 5, that our two countries are awakening almost simultaneously to the benefits and delights sure to follow such special organisings of amateurs as these. Such a club on this side of the water was started twelve years ago by a group of women deeply interested in gardening in the suburbs of Philadelphia, suburbs, without doubt, the most beautiful in this country, and often given the high compliment of the phrase "English-looking"! For some years this garden club went its way alone. Lately, however, in the great gardening fever sweeping over this land, numbers of other garden clubs have arisen in various places with memberships of women, sometimes of men and women, ranging in numbers from a very little garden club in New Jersey, who whimsically call themselves "The Nine of Spades," to a great Connecticut garden club of 200. It is impossible to over-estimate the good that these clubs may do in the highest interests of gardening in America, for the clubs are made up of people of intelligence and taste, people who read, who travel; discriminating and serious amateurs. The Garden Club of Philadelphia has sent out invitations to each of the sixteen clubs of America to a meeting for considering the affiliation of all the garden clubs into a national one, the object of this plan being the exchange of plans for yearly programmes of meetings, papers, speakers and, above all, for the vital thing of which Mr. Jacob speaks—the opening of gardens of members of one club to those of all other clubs. In my experience of the meetings of the Garden Club of Michigan, the one of sixty members with which I happen to be associated, each meeting seems more delightful than the ones past. Enthusiasm runs high, and is applied, not wasted. If any of your readers care to see our by-laws, I will send them with pleasure.—(Mrs.) FRANCIS KING, *Orchard House, Alma, Michigan.*

How to Grow Saxifraga burseriana.—I am very much interested in the keen correspondence elicited by "Alpinist's" questions as to S. burseriana, and especially to see that my experience of the plant in Nature seems to be generally borne out in the diverse conditions of culture. The essential danger, in hot, dry situations, is that of uncongenial frizzling, whereas with perfect drainage, good soil and underground watering, there is no doubt that the plant should prove safe in even the most extreme development of the "open situation" that is recommended. I am particularly glad to find that Mr. Hornibrook endorses my opinion and takes up my case. All who have seen his garden well know the value of his horticultural work and advice, and experience of a plant at home (such as increasing years are bringing me) does certainly give great guiding-lines along which to go in culture, so long as those lines are not followed in any minute, slavish, or pettifogging spirit of mere imitation. I wish "Alpinist" could see the tiny burserianas on my cliff, which never gets any sun at all. Single rosette cuttings of Magna and Gloria, tucked into crevices two seasons since, have now from six to eight rosettes apiece, each one of which can faithfully be counted on to emit a flower.—REGINALD FARRER.

—— Mr. Farrer's notes on Saxifraga burseriana in THE GARDEN for April 26, page 202, will be read with interest by every cultivator of this fine plant. Personally, I have no knowledge of this species in its natural habitat, although I enjoy and appreciate the information this distinguished collector furnishes at first hand. I fear, however, there is real danger in translating this knowledge too literally in practice, and we can easily become mere copyists; whereas the value of original travel in disclosing the actual conditions under which a plant grows naturally cannot be other than an approximate guide for an exotic in cultivation, and it does not follow that because S. burseriana prefers or frequents some sunless gorge in an alpine valley that it will refuse to grow in a sunny position here, and herein lies the divergence disclosed. That it will grow and flourish in most aspects may readily be proved by anyone who sets himself the task to master the situation; but I contend that S. burseriana discloses its highest beauty in an open, sunny spot, free from any and every form of overhead shade. Soil and situation are of greatest moment, and in proof of this, on a natural chalky soil, I have had it give no more trouble than Aubrietias, where, beyond the bi-yearly top-dressing, in September and again in spring, it had no further attention beyond an occasional soaking of clear water in an abnormally dry season. Undoubtedly the soil was responsible for this result, and I find that the great majority of rock and alpine plants commonly cultivated appreciate lime in the form of chalk, as, apart from its chemical action, it appears to part less readily with its moisture in summer, while in winter it is relatively warmer and drier than other soils. In the same issue of THE GARDEN to which I have already referred, on page 211 Mr. Hyland comments on the behaviour of Phlox setacea, but I feel sure, were he to use chalk in equal quantity with his present soil, he would modify his treatment of this fine species and assign it the position it undoubtedly merits in Mr. Farrer's list of the fifty best alpines. I would have little faith in an alpine that requires to be thoroughly watered every day when in full bloom, for plants of this character have little garden value, and, so far as my experience goes, Phlox setacea is not of their number.—THOMAS SMITH, *Coombe Court Gardens, Kingston Hill, Surrey.*

The Dropmore Anchusa as a Pot Plant.—I was pleased to see the note by Mr. E. Smith on page 227 of last week's issue on this subject. I have grown this beautiful plant in pots for several years, and can endorse all that he says about it.—B.

Wallflowers Without Fragrance.—May I be allowed space to enter a protest against the floral committee of the Royal Horticultural Society granting an award of merit to a Wallflower in which, as described on page 235 of your issue for last week, "the true Wallflower fragrance is quite lacking in the plant"? In common with many other Fellows of the society, I have hitherto regarded the award of merit as a sort of hall-mark of excellence, denoting that the plant to which it is granted is either an advance on existing varieties or an entirely new species. But a Wallflower without the characteristic fragrance is surely neither of these. So far as I could see, the variety under notice had nothing to commend it. The colour was certainly one that few would care to have in their gardens when so many beautiful and *fragrant* Wallflowers are obtainable. It is human to err; but if the floral committee of the premier society in the world are going to confer awards of merit on such flowers as this, one's faith in their judgment will be badly shaken. Their aim, and that of everyone else who wishes to forward floriculture, should be to foster fragrance, before all else, in those flowers of which it is a delightful characteristic. Raisers have already thrust upon us scentless Roses and Sweet Peas, and now, backed up by the Royal Horticultural Society, we are to have scentless Wallflowers!—F.R.H.S.

Davidia involucrata Flowering at Kew.—Travellers in Central and Western China have sung the praises of this Chinese tree when in flower so frequently that the fact of its being now in flower at Kew, though only represented by a solitary flower, is worth recording. To Messrs. James Veitch belong the credit of first flowering the tree in this country at their Coombe Wood Nursery in May, 1911, from seeds collected by their traveller, Mr. E. H. Wilson, and sown in April, 1901. Previous to this, in 1906, a plant flowered in France with M. Maurice de Vilmorin at Les Barres. This tree was raised from seed received from Abbé Farges in 1897. The tree flowering at Kew is also from this source, M. Vilmorin presenting it as a small plant in 1901. In the hope of inducing the plant to grow and flower quicker, it was planted when large enough in the centre of the Himalayan House. The Davidia, however, is a perfectly hardy tree, there being at least a dozen specimens growing outside in various parts of the Gardens. It is apparently a fairly fast-growing tree, the appearance, particularly the foliage, suggesting a Lime tree. The average height of the trees in China is given as 40 feet to 60 feet. The inflorescence is pendulous, produced on the small side twigs or spurs. The attractive character of the tree lies in the two creamy white bracts, in the centre of which, arising from where they join at the base, are the stamens. An interesting point about these two bracts is that they are unequal in size, one being about double the size of the other, the larger 4½ inches long by 2½ inches wide, the smaller 2½ inches long by 2½ inches wide. The bracts on the trees in China are much larger than this, so no doubt as the trees increase in size in this country the inflorescences will be larger. The Davidia belongs to the Natural Order Cornaceæ, coming next to the American Nyssa trees. In the bracts there is a resemblance to Cornus Nuttallii.—D. A.

PRIZES FOR THE BEST ROCK GARDENS.

DURING the next week or two, rock gardens in most parts of the country will be at their best. From letters that we are constantly receiving, we know that a great many owners take a keen interest in these, and their gardeners, in most instances, are also alpine enthusiasts. For some weeks past we have published particulars of prizes that we are offering for three photographs of the best rock garden, or portions of a rock garden, and these details will be found below. We hope as many of our readers as possible will enter this friendly competition, and thus allow others to see what beautiful effects can be obtained by a well planned and planted rock garden.

First prize: Five Guineas, or a Silver Cup of that value.

Second prize: Two Guineas, or Books of that value.

Third prize: One Guinea.

The competition is open only to the actual owner of the rock garden, or to his or her gardener. The object is to encourage good rock gardening, and preference will, therefore, be given to those rock gardens which show originality in design, and where the plants depicted are well grown. It should be distinctly understood that awards will be made to the best rock gardens, and not necessarily to the best photographs. The photographs need not be taken by the competitor, who must, however, in such cases have the written consent of the photographer for their reproduction in THE GARDEN. The competition is subject to the following rules:

1. Not more than three photographs of each garden may be sent in by one competitor.
2. Each photograph must have the full name and address of the competitor plainly written on the back in ink.
3. Successful competitors shall furnish written particulars of the rock garden forming the subject of their photographs.
4. Glazed P.O.P. prints must be sent, and each should be on a mount with not more than half an inch margin.
5. All photographs must be sent to arrive at THE GARDEN Offices, 20, Tavistock Street, Strand, W.C., not later than June 1, 1913.
6. Unsuccessful photographs sent in for competition will be returned if a sufficiently stamped and addressed envelope or wrapper is enclosed for the purpose, but no responsibility will be taken for the loss or damage of photographs submitted, although every care will be taken to return them uninjured.
7. The Proprietors of THE GARDEN reserve to themselves the right to reproduce any photograph sent in for competition.
8. The decision of the Editor will be final.

FORTHCOMING EVENTS.

May 20.—Royal Horticultural Society's Spring Flower Show at the Royal Hospital Gardens, Chelsea (three days).

May 21.—National Tulip Society's Show at Chelsea (two days). Devon County Show at Barnstaple (three days).

May 27.—Rhododendron Show at the Royal Horticultural Society's Hall (four days). Bath and West and Southern Counties Society's Show at Truro (five days).

TREES AND SHRUBS.

THE UPKEEP OF GARDEN HEDGES.

APART from the necessary clipping which is required to keep a hedge neat, there are other matters that require regular attention if the hedge is to be kept in the pink of condition. These little matters are, unfortunately, often neglected, and the hedges suffer in consequence. A fertile source of trouble connected with hedges is the growth of various weeds of both herbaceous and shrubby character, which spring up about the bases and ultimately create gaps. Grasses of various kinds are disastrous to a good dense bottom, and one of the most elementary conditions regarding good hedge culture is to keep the bottom free from weeds. Everyone must have noticed the difference in strength between well-cleaned and dirty hedges, yet the cleaning is often considered too much trouble. This is frequently the case where farm and plantation hedges are concerned, and the condition is not absent in gardens, although the weeds may be of a different character.

Bindweed creates a lot of trouble when it once becomes established in a hedge, and this is perhaps one of the commonest weeds found in garden hedges. It is almost impossible to fork out the rhizomes of the Bindweed from among the roots of the hedge, but it may be eradicated by patience. The best way to clean a hedge of this pest is to keep pulling up the young shoots when they are but a few inches long. By continuing this the plants are gradually weakened, and eventually die out. It is a tedious job, but well worth the trouble. A boy could easily perform the work by looking over the hedges once a week. The writer knows of a dense Holly hedge which was being ruined by Bindweed and was cleaned in this way. Couch Grass and Nettles are other subjects that play havoc with hedge bottoms. These are best dealt with by forking out the rhizomes, and then keeping all young growths cut off regularly with the hoe. Once such rubbish is removed, the hedge improves in health in a remarkably short space of time, and holes about the bottom begin to fill up.

Brambles, Hops, Honeysuckles, Elm suckers, Bryony, Traveller's Joy and the Bitter Sweet are coarse-growing subjects that cause serious injury to hedges, and whenever such are noticed they should be removed at once, not left until they have smothered a few yards of hedge before being dealt with.

How to Fill Up Gaps.—Gaps about the bottoms of hedges may be dealt with in a variety of ways. Where there is room to insert a young plant, that should be done; but where this would be impossible, branches should be trained across the opening. Should such openings be used by animals, such as dogs, cats and rabbits, strong stakes should be driven in to prevent access, or if that is impossible, wires should be fastened across, for if the animals are able to use the gaps, there is little chance of the branches growing up. When the bottom of the hedge is very weak, it may sometimes be strengthened by cutting a foot or so off the top, thereby infusing more vigour into the lower parts. In the same way a very wide hedge which is becoming thin in places may often be improved by cutting the sides in well. Such vigorous cutting is best performed during late winter or early spring, for then a full growing season is obtained, whereby

the ugly look inseparable to a hard-pruned plant is soon over.

Manuring.—Hedges which are showing signs of weakness may be rejuvenated by applying a dressing of manure to the roots. Care must be taken, however, to let the manure extend for at least 2 feet from the centre of the hedge on either side. Farmyard manure should be chosen whenever possible, but bone-meal or fish manure may also be used. The former should be spread over the surface of the ground and be lightly forked in, and the same remarks apply to bone-meal; but fish manure is best mixed in water and given in a liquid state as follows: Take 7lb. of the manure and mix it with thirty-six to forty gallons of water, and apply in April and again in July.

Holly and Thorn Hedges are often troubled with aphides of various kinds towards the end of June or July. Such attacks may be dealt with by syringing the hedges with a nicotine or paraffin wash. As a rule, if a hedge is syringed twice, at intervals of a week or ten days, it is quite sufficient to effect a remedy. More difficult to deal with is the Holly fly, which is responsible for the disfiguring yellow blotches which occur on Holly leaves in so many parts of the country. The blotches, or galls, are caused by the larvæ, which feed and afterwards pupate beneath the epidermis of the leaves. The mature insects escape from the galls about May and proceed to lay eggs as the new leaves appear. By syringing the hedges with a paraffin or nicotine wash occasionally during late April and May, many insects may be killed; while by spraying the young foliage with a weak paraffin wash, with a little infusion of Quassia chips added, the leaves are made distasteful to the insects and fewer eggs are laid.

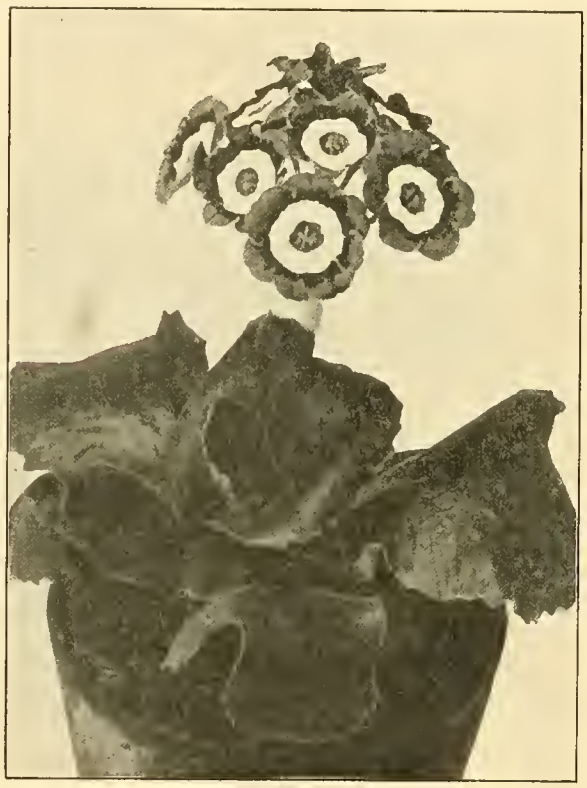
Thin and Tall Hedges which have become gaunt and are generally thin, but otherwise healthy, and more particularly Thorn hedges, may be rejuvenated by laying. This is done in winter-time by cleaning all rubbish from the bottom, then cutting each stem three parts of the way through and laying it down lengthwise, securing it to two or three strong stakes driven into the line of hedge. This is done throughout the hedge. Rough brushwood is cut away until the hedge is of a uniform density, and in the space of a year or two a vigorous hedge results. In some districts garden and farm labourers are very expert at this kind of work, and competitions in hedge laying are held each year somewhat after the fashion of ploughing matches.

Clipping Hedges.—In conclusion, it is very necessary that hedges should be properly and regularly clipped if they are to remain in good condition. It does not so much matter whether a hedge is clipped in June or August, providing one clipping only is given; but it must have that clipping, and when hedges are kept very neat, two clippings, one in June, the other in August or September, are required. In some places even Privet may require to be cut three times during the season. D.

THE GREENHOUSE.

GROWING CYCLAMEN FROM OLD CORMS.

It is essential to give most bulbous plants a resting period at some time during the year. Cyclamen are, however, an exception to the rule, though this fact is not generally known. Some growers certainly have a good share of success by gradually drying the corms for a time under various systems best known to themselves. At the present time many good gardeners treat the Cyclamen as an annual, and throw the plants away after once flowering. There is, and always has been, such an uncertainty about growing on from old corms that this is, no doubt, the reason so many have adopted the annual system.



THE PREMIER ALPINE AURICULA, PHYLLIS DOUGLAS, SHOWN BY MR. C. F. FAULKNER AT THE NATIONAL AURICULA SOCIETY'S SHOW (NORTHERN SECTION).

Cyclamen are so useful in winter as cut flowers for table decoration, especially the salmon shades, and nothing can beat them for creating a brilliant show in the greenhouse, or good specimens for rooms, that a little experimenting is well worth the labour. When the plants have finished blooming, if one is knocked out of the pot it will be found that the roots round the side are quite active, and that the growing point or each is very prominent. Now shake off all the soil and examine the base of the corm, and numerous strong young roots from a quarter of an inch to half an inch long will be found ready to strike down into the soil in search of food. A corm on examination the other day was found to be emitting thirty young roots; this strongly suggests that there must be no drying off, but encouragement given for an active and immediate growth. The course to take now is to select the requisite number of healthy plants that have just finished flowering. Now comes an operation that looks most unnatural and cruel, which will, no doubt, be looked on by some with suspicion; that is, to sharply jerk off all the leaves by taking each singly with the finger and thumb and giving a sharp pull, which will sever the stalk at the union with the corm. Next knock the plants out of the pots, shake every particle of soil from the roots, and pot the corms in 3½-inch or 4-inch pots, which must be clean and dry. Place one large crock in the bottom and pot lightly, at the same time shaking the soil well in among the roots. A light diet is all that is necessary at this stage, and a sandy loam, with the addition of a little leaf-soil or peat, forms a nice compost. Give the newly-potted corms a good watering with a rosed can, and place them where there is a little heat, at the same time close and shady. A newly-started vinery or Peach-house or mild hot-bed are all suitable places. Almost immediately growth will commence quite strong. The plants must then be sprayed over twice daily, and in a short time they will be sufficiently well rooted to be potted into their flowering pots. Soil that has been left over from Chrysanthemum potting forms a good mixture, with the addition of more sand and peat or leaf-soil. From now till October stand them in a shady, moist frame, water and ventilate carefully, also spray twice daily till they are housed and the flowers commence to show, when overhead spraying must cease. There must be many who have old corms at the present time; and if a few are grown on as described, a rich harvest of bloom on well-foliaged plants will be the reward during months of the year when a little warm colour is most cherished.

D. Lewis.

Totley Hall Gardens, Sheffield.

ANNUALS FOR GREENHOUSE DECORATION.

Of late years the different forms of Nemesia have come largely to the front, not only for the embellishment of the outdoor garden, but also, when grown in pots, for the decoration of the greenhouse or conservatory. Anyone at all sceptical of their value for pot culture would have had an eye-opener at the meeting of the Royal Horticultural Society on April 15 in a large group of the different forms shown by Messrs. Veitch of Chelsea. The usual method of growing Nemesias in pots is to have more than one plant in a pot, and the result is not always a pleasing one. They may in this way flower profusely, but the plants have always a crowded appearance, and, furthermore, where a certain amount of variation exists, the masses of flowers have a somewhat patchy look.

In the case of those referred to, only one plant was grown in each pot (a 5-inch one), and the specimens so obtained were as near perfection as possible. Each plant had been stopped two or three times, and this mode of treatment proved in every way satisfactory. In order to obtain flowering examples thus early in the season, the seed should be sown in the autumn, and the resultant plants treated much as the first batches of

Schizanthus are; that is, grown in a light position, with plenty of air during the winter, but at the same time keeping them quite free from frost. An excess of moisture must at that season be avoided, but, at the same time, they should not be allowed to become dust dry. If shifted into their flowering pots about the middle of February, the young plants will, with the return of spring, have made rapid headway. An important feature in connection with these Nemesias—and, in fact, with many other annuals—is that, by varying the time of sowing, a succession of flowers is kept up for a lengthened period. Another point is the extreme variability which now exists among them, not only in the colour of their blossoms, but also in the size thereof.

The small-flowered class, usually referred to as the Gem section, are remarkably neat in growth and profuse in flowering. Of coloured varieties we have White Gem, Yellow Gem and Blue Gem, this last being, I think, the more generally admired. The flowers of this are of a soft Forget-me-not blue, a charming tint, and one which is at a little distance difficult to verify.

The varieties of the grandiflora strain cover a wide range of colour, the various golden, orange and mahogany tints being very striking, and unusually attractive to the fair sex by reason of their being now such fashionable colours. Besides these, the scarlets, carmines and crimsons are equally showy. Considering that seed, even of the best forms, can be obtained so cheaply, and by growing the plants singly a very small amount will go a long way, the pot culture of Nemesias, though now largely carried out, should be considerably extended.

Schizanthus.—The main batches of these will be by now in flower, and a grand effect they have in the greenhouse when at their best. The distinctive markings of the blossoms of many of them have led to their popular name of Butterfly Flowers, which is certainly a very appropriate one. The different forms of Schizanthus may be grown in various ways. In the first place, good bushy examples of some of the more compact varieties may be grown in 5-inch or 6-inch pots, while taller specimens of the stronger kinds are exceedingly useful where the scheme of decoration is on a bolder scale. Besides this, the Schizanthus is a valuable basket plant, and in this way the large overhead masses of flowers show it in a very favourable light.

ROSE LEAF AND LEAFLET ATTACKED BY "RUST" DISEASE.

A BADLY CANKERED ROSE STEM.

Clarkias.—Treated as the Schizanthus the first flowers of the Clarkias are now open, and under favourable conditions a succession of bloom will be kept up for a long time. Until the last few years the Clarkias were but little grown in pots, but the advent of those delightful forms with blossoms of different shades of salmon and scarlet has led to their extended cultivation.

Mignonette.—The delicious fragrance of its blossoms renders the Mignonette a universal favourite, and until its outdoor flowers can be obtained it is always appreciated in the greenhouse. Sown in autumn, the main point in its culture is to keep the plants growing very slowly, but as sturdily as possible, till the spring. In order to do this, plenty of light and air, with immunity from frost, is essential. H. P.

THE ROSE GARDEN.

SOME DISEASES OF THE ROSE.

(*Continued from page 227*).

Black Spot.—The illustration shows admirably the spots or blotches made by the fungus Actinonema rosæ on Rose foliage. The branching threads of a dark colour growing inside the leaves and radiating from a common centre may be easily seen with a lens or even with the naked eye. The spores are distributed by rain and wind or on insects' feet, and soon cause the spread of the disease, especially when the plants are in a closely-confined place. Very quickly, when the attack is a bad one, the leaves fall and the trees become almost defoliated. Hybrid Perpetuals perhaps suffer most. In this disease the fungus passes the winter on the fallen leaves or those left on the Roses in mild winters, from which infection spreads in the spring. The collection and burning of these is one method apparently called for, and spraying with Bordeaux mixture from time to time, say, at three or four weeks' intervals, beginning about the end of April or the middle of May.

Rust.—This disease is much more prevalent, as a rule, on Briars than on other Roses, and does perhaps less real harm than those already alluded to. It is caused by the fungus Phragmidium subcorticatum, and its first appearance is quite early in the season, in the form of bright orange masses of spores bursting through the bark. They leave cankerous-looking spots on the stems, and, being carried to the foliage, attack it, producing orange or brown and in autumn black spots on the under surfaces of the leaves. These spots are small masses of spores, for the fungus is out of reach inside the leaves. Something may be done by spraying with Bordeaux mixture or with a rose red solution of potassium permanganate in the spring at the time the stem stage is about; but the main thing to do is to destroy the dead leaves on which the black spore masses occur in autumn as soon as possible, and so prevent the infection in early spring, which comes only from these black spores. This fungus is very common on Dog Roses in our hedges, unlike the two mentioned before.

Canker.—In canker we have a stem disease, in which the tissues of the bark down to the cambium are destroyed by a fungus called Coniothyrium Fuckelii, and a sort of alternate development of callus and destruction of it by the fungus goes on until a large, gaping wound with irregular, thickened edges is produced on the stem. The fungus gains entrance by a wound, and the canker first appears as a purplish dead area on the bark. That is the time to deal with it effectively, and it calls for a surgical operation. Cut out (and immediately burn) the affected part so as to prevent the spores from escaping from the little black fungus fruits, which soon appear on the spot. A wound such as is made by aphides or by one branch pricking another is sufficiently large to permit of the entrance of the fungus, but larger ones afford an easier

ROSE LEAF ATTACKED BY BLACK SPOT.

entrance, and all such made in pruning if over, say, half an inch in diameter should be painted over with either white or red lead paint (without turpentine), or with a 2½ per cent. solution of Lysol. The climbers, especially perhaps those lovely wichuraiana hybrids which in recent years have graced our gardens, seem most prone to attack. F. J. Chittenden.

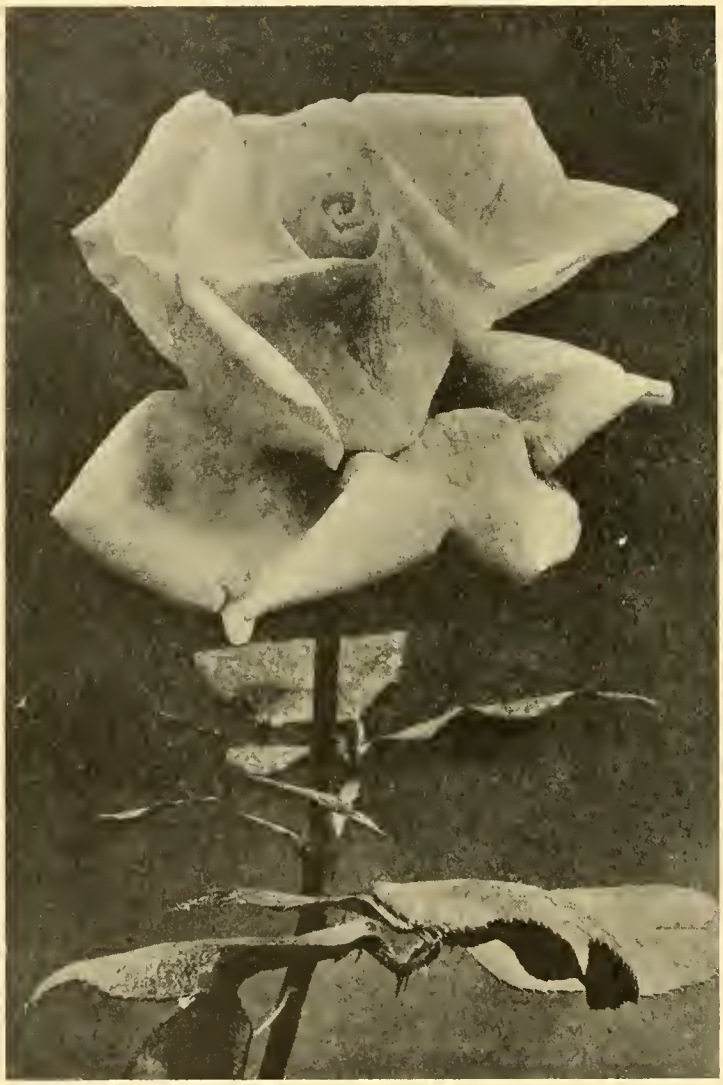
NEW ROSE MRS. FORDE.

This new Hybrid Tea received the high award of a gold medal at the recent spring show of the National Rose Society. As described in the report of that show in last week's issue, the blooms are pale blush in colour, of great depth, conical shape, and not without the precious gift of fragrance. The variety possesses a vigorous and erect-growing habit. It is to Messrs. Alex. Dickson and Sons, Newtownards, Ireland, that we are indebted for this promising new Rose.

TREATMENT OF ROSES WITH UNRIPENED WOOD.

Those of your readers who grow Roses may be interested in the following facts and my attempt to explain them. This house is situated on the top of a hill about three hundred feet above sea-level, three miles from the coast and eight miles south of Berwick-on-Tweed. Last winter was more or less mild, with heavy gales and three short, sharp frosts, the hardest being in the first week in December, shortly after my main Rose-planting was completed. It is hardly necessary to tell your readers that we had a very wet summer from the end of May to the end of August. September was fine, though not warm, and October was again wet. November, however, proved an exceptionally good "planting" month. All my neighbours within a ten-mile radius are complaining of the number of Roses, especially ramblers, that have been killed this winter. Every garden seems to have lost dozens. I am glad to say that mine are very healthy, with the exception of twelve three year old ramblers, two each of Crimson Rambler, Dorothy Perkins and Lady Gay growing on metal arches. These, though not killed, have been badly cut down, while two contemporary Hiawathas which were on pillars and twelve newly-planted pillar ramblers of various kinds are absolutely intact.

In November last I made some new Rose-beds and remade all the old ones, which necessitated the lifting and beeling in for about three weeks of all the old plants, some two hundred odd. About a hundred were brought from my former home, forty miles south of here, and planted immediately. All the rest were new plants, mostly from the South of France, Devonshire and Essex, and were planted on arrival in November, all except about a hundred, which were got at the end of December to complete the scheme of my new garden. The two pillar Hiawathas before mentioned were taken up and heeled in for three weeks, as I wished to change their position. The ramblers on the arches were not moved. The sum of all this is that out of 900 Roses, mostly dwarfs, only about a dozen are dead, ten of which are among the new ones I planted late; and the inference I draw from the above facts, on which I invite the opinion of your readers, is this: In a wet season the wood does not ripen well and the sap continues to run. If an early frost comes and finds these sappy bushes, they are killed. On the other hand, if the bushes have been lifted, the flow of sap is checked, the wood becomes comparatively dry and the frost has no effect on it. Am I to conclude that in order to save one's Roses in a wet season they should all, and especially the ramblers, be dug up and heeled in during the month of November? It seems a laborious remedy, but it is better than losing the plants. A Lady Amateur Rose-grower.



ROSE MRS. FORDE, A NEW HYBRID TEA OF PALE BLUSH COLOUR AWARDED A GOLD MEDAL AT THE NATIONAL ROSE SOCIETY'S SPRING SHOW.

THE FLOWER GARDEN.

DAFFODIL NOTES.

The outstanding feature of the London Show on April 29 was the fine collection staged by the Rev. G. H. Engleheart. Not that it was so very outstanding in itself. I have often seen his groups when there was much greater variety of type, for on this occasion, as might be expected, the majority were Poets. I have seen them composed of choicer and more uncommon flowers, but I have never before seen him stage one of his accustomed white-robed collections in the annexe after Birmingham. The Lord High Daffodil-maker has this season broken his own records in length (from early March till just upon May) and lateness. I feel sure every Daffodil-lover will congratulate him heartily on this achievement, and, if they had any say in the matter, would unanimously vote him the Royal Horticultural Society's gold medal, which, it is almost incredible to believe, he has never as yet had! We who attend these Daffodil days at Vincent Square have become so accustomed to his wonderful assemblages of lovely blooms that we lose our sense of proportion in our estimation of their value. We forget that most likely when we see them they are lacking some of their choicest jewels, and that those very flowers are possibly the pride of other stands. Emerald Eye at Birmingham, White Emperor and St. Olaf at London are recent examples of what I mean. Suppose some enthusiast got together a collection of Engleheart Daffodils like art committees do with the pictures of some famous painter, what a collection it would be! If arranged on an historical basis, an epitome of the later days of seedling-raising, or if upon merit, it would, at any rate, be a close contest if matched against the world—a sort of Champion County *v.* The Rest of England. He is always telling me I am fond of Latin quotations. *Salve! magister.*

I felt I must write what I have just written. I now feel more tranquil and prosaic, so that I can call readers' attention to a few of the best varieties that were to be seen on the different stands. First, Evangeline, the beautiful Leedsii that I once called a white Homespun, but which I have since corrected by saying I should have said a "bicolor" Homespun. It is a grand plant, and fully deserved its award of merit. Mr. H. D. Phillips of Olton, a young and keen trade grower, who is fast building up an enviable reputation for delivering "good stuff," was the cultivator of the blooms, and they did him very great credit. It is a plant that *everyone* should have, like Emperor and old Barri conspicuus. Venetia, a fine long-stemmed, cupped pure white triandrus hybrid, raised and exhibited by Mr. Cranfield, also received an award

of merit. These snowy flowers are extremely lovely, but they are very tantalising—easy to raise and flower, but so few with much constitution. It is a great prize when one comes across one that is a good doer; hence I am very glad this particular one got an award. Size, 3½ inches by five-eighths of an inch by 1 inch. Enterprise (Cartwright and Goodwin) was a "useful thing." It is a roundish flower, with a pale primrose perianth and a fairly large eye, with greenish yellow centre gradually suffusing to red. Size, 2¾ inches by seven-eighths of an inch.

Sonata (R. H. Bath) was shown in excellent form. It is a "recurvoid" looking bloom, with a pleasing greenish eye edged with a narrow band of red. Size, 2¾ inches by five-eighths of an inch. In these days, when there are so many Poets very similar, it is no small recommendation to say of any one that it is distinct. Sonata is. It is exceptionally lovely, too—goodness and good looks.

A Daffodil Holiday.—Most of us do not think it much of a holiday to rush about from show to show and from garden to garden in our anxiety to see all we can in the short Daffodil season. So this is not what I mean. In the course of the afternoon of the 29th ult., I met Sir Arthur Hort with a small box full of real wildings, picked in a distant Pyrenean valley exactly a week before. They were a regular medley of quaint forms, some quite "pallidus-præcoxy," others quite "muticusy," the quaintest of all being a sort of "length without breadth" Ajax. I measured it and found the trumpet to be 1¾ inches long by half an inch wide! Sir Arthur had had a holiday in the Pyrenees, and he very kindly told me where one should go if one wants to have a similar enjoyable experience—to Bareilles, an old-world village four miles from the railway station of Arreau. Someone may think it worth while doing another year. It is a fascinating idea: a week where Daffodils grow like Daisies.

The Royal Horticultural Society's Daffodil Year Book.—I am hard at work on this book collecting material. On the 29th ult. the Narcissus committee approved the voting list for the lists of varieties most suitable for various purposes. These will be on the lines of those that are issued in the National Sweet Pea Society's Year Book, and should prove useful for reference. Our Year Book will also contain reports of the Royal Horticultural Society's London Daffodil Show, together with a full list of all the varieties that were staged there, and also at the Midland Show at Birmingham *in the competitive classes*. Among the other contents there will be several articles of general interest, lists of awards in 1913, descriptions of some of the best of the novelties, and numerous illustrations. I hope it will be issued early in August, and that the price of the same for those who are not members of the Royal Horticultural Society will not be prohibitive.

The Merodon.—Mr. Stocks' paper in The Garden for April 27 will have been read with much interest. Without wishing to unduly frighten anyone, there seems to be very little doubt that the fly was present in considerable numbers in many places last spring and early summer. I have an idea that the present inclement weather may prove more effectual than Mr. Stocks' racquet net; but if neither of these has touched the cause, then it will be well worth trying the water method, which Mr. W. Poupart of our Narcissus committee told me his sons, who carry on a large cut-flower trade, had found very efficacious last autumn. The mode of action is to steep all stocks which are suspicious in large tubs of water for *three days*, at the end of which time, when the bulbs are taken out and the water drained off, a deposit of merodons is found. The steeped bulbs did not suffer, he said, in the least, and flowers from them were as good as usual this spring.

Joseph Jacob.

SPRING FLOWERS AT WISLEY.

The Royal Horticultural Society's gardens at Wisley contain much that is of interest at every season of the year, but it is during the spring months, perhaps more than at any other time, that the visitor will find numerous plants that call for comment. This is emphasised more than usual this spring, now that the immense rock garden is getting clothed with alpine vegetation of many kinds. When visiting the gardens on the closing day of April, we found a vast quantity of choice and well-grown plants. In the rock garden, that gem of flowers, though one that many find a difficulty in growing, Lewisia Tweedyi, had just opened its first flower. There was a small colony of plants, keeping company with L. Cotyledon, both being planted in an open position on a slight mound, and in grit and leaf-soil with a moisture-preserving top-dressing of granite chips. Not far away we found a fine little colony of Saxifraga Grisebachii just coming into flower. These were planted facing south-west in the cracks of the rocks, much in the same way as Ramondias are usually arranged, forming rosettes on the face of the rocks.

In the moraine we found a fine plant of Asperula suberosa flowering well, while Cheiranthus Harpur-Crewe, Parochetus communis, Cytisus kewensis, Antirrhinum Asarina and Myosotis Rehsteinii were other plants in the rock garden proper that called for special mention. In a small circular bed near the old rock garden, Gentiana acaulis was a blaze of brilliant blue, and near the pond, not far away, Polyanthuses provided a broad belt of colour such as one is not often privileged to see.

In the woods we were much interested in a fine little colony of Trillium grandiflorum roseum, the largest-flowered variety of its class, some of the blossoms measuring 6 inches in diameter. The delicate blush rose colour of the blooms cannot fail to charm those with artistic tastes, and it is a fine plant for a damp, shady spot. Under the Camellia bushes near by, Shortia galacifolia was growing like the proverbial weed, forming a large tuft more than a yard in diameter, and evidently perfectly happy in its shady home. Near by, the large stems of Lilium giganteum were pushing upwards, giving promise of a rare display of beauty and perfume in later days. On a large, sloping bank near the entrance we were much interested in Narcissus Philippe Vilmorin, a beautiful white variety, unusual on account of the great length of the trumpet. Apparently it is but little known in this country, but it is exceedingly beautiful, and has proved a great favourite with visitors to Wisley this spring.

In the glass-houses we found some of the finest plants of Perpetual-flowering Carnations we have ever seen, and in the adjoining house, and keeping company with the show Pelargoniums, were magnificent flowering plants of Schizanthus. Fellows

A BEAUTIFUL WATER-SIDE GROUPING OF POLYANTHUSES IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY.

of the Society are fortunate in having such gardens as these, where many valuable lessons in the cultivation of choice plants can be learned, and where the whole staff is the very essence of courtesy.

BORDER CARNATIONS IN NEW ZEALAND.

Useful Hints for Home Growers.

Doubtless we all at times wonder how our favourite flowers prosper in distant lands. A letter recently received from New Zealand's best-known and most successful Carnation-grower answers this question as regards his own hobby in a most interesting manner, so interesting, indeed, that it would be unfair not to give your readers the benefit of his experience and methods.

The gentleman in question is Mr. H. A. Fox of Wellington, and to those who do not know his name I would like to introduce him as a really great Carnation specialist, and a gentleman whose word can be taken as a true and unexaggerated story of his floriculture. He is a firm believer in the best that can be procured, whether it be labour, compost, or plants, and his collection of border Carnations is thoroughly up to date. Each season he imports the best novelties from England, and seems to prefer this process to layering his own plants, even for the older sorts, and the reason for this brings out one of the most interesting points of his letter. The layers are sent out in the autumn, as soon, indeed, as strongly rooted; but, naturally, a trying and unstable voyage of nearly two months, with its attendant state of semi-starvation, gives them a severe check. Now, here comes the point — these plants arrive and are planted just before the solstice of the Antipodean summer, and one might imagine they would make rapid progress and perhaps bloom in the autumn, *i.e.*, in February or March. But they do not; the check seems to be just sufficient to hold them back, so that they make a whole year's root and grass growth before flowering. The result is really wonderful; but before going into details let me give Mr. Fox's methods of culture from the beginning.

In readiness for the plants the ground is trenched 2 feet deep. Very old horse-manure is used to enrich the soil, with a sprinkling of superphosphate in the bottom spit. When the plants arrive, some time in December, they are put straight into their flowering quarters and allowed to grow without protection, except from wind and rain. As the New Zealand springs are notorious for furious wind-storms, some protection *must* be afforded, and Mr. Fox secures this by means of curtains of cheese cloth or unbleached calico carried along the two sides of the beds, the ends remaining open, and free ventilation ensured by keeping the curtains 6 inches off the ground. As soon as colour shows in the buds, all the beds are covered, some by glass lights and some by oiled paper stretched over lattice-work. Regarding these two coverings it was found that the glass was the better in dull weather, the paper in hot, the latter, naturally, being cooler while still admitting plenty of light. As soon as these covers were on, light liquid stimulants were started, weak natural manure frequently being used.

By this time the plants, which have been developing for nearly a year, are mostly 18 inches in diameter, with from eight to twenty main flowering stems per plant! These flowering stems are from 3 feet to 3½ feet long and as thick as one's little finger. Disbudding is, of course, adopted, only the crown and the two lowest buds being allowed to develop.

And now for results, all of which Mr. Fox states are absolutely correct. On one plant of Eros twenty excellent blooms were open at one time, and forty buds remained after the disbudding process mentioned above. Off two plants of Mrs. Robert Morton, Mr. Fox had twenty-four show blooms out on the same day, most of them 3½ inches in diameter. John Kidd carried flowers up to 3¾ inches, while Linkman went one better, a bloom staged at Nelson South Island) being measured in front of competitors and exactly touching 4 inches! Renown is a special favourite with Mr. Fox, who says he had two flowers of this 4 inches across and "were real champions." But the giant of the lot was Bob Acres, which, shown at Lower Hutt, a Wellington suburb, measured as it stood 4¼ inches, and a perfect flower at that. At the chief show in Wellington Mr. Fox carried all before him, winning the £5 5s. trophy for twelve blooms and the £2 2s. trophy for twelve with own foliage, also champion bloom of the whole show with a superb Mrs. J. L. Gibson. This flower was one of eleven off the same plant and exhibited at the same show. What thews and sinews these plants must be endowed with under such culture!

Disease seems to have a very small part in the life of these horticultural giants, soft blooms being the only trouble of consequence mentioned; and that seems to be something of a mystery to one who has had no opportunity to investigate on the spot. Probably this state is brought about by bees causing the flowers to collapse by hybridity. The illustration is of a bloom of the new border Carnation Bookham White, grown by Mr. Fox, which as a border white he considers is without equal, its dazzling whiteness and matchless form proclaiming it to be the white *par excellence*. As the flower was New Zealand grown, so were the photograph and block New Zealand produced, the former having been taken by that well-known New Zealand florist, Mr. Lord of Wellington, at the Nelson Show.

J. Douglas.

Great Bookham, Surrey.

A SUPERB BLOOM OF BORDER CARNATION BOOKHAM WHITE, GROWN IN NEW ZEALAND.

SOME GOOD BORDER THALICTRUMS.

The majority of Thalictrums are most interesting on account of their elegant foliage, which is generally much subdivided and is suggestive of the popular Adiantum on an enlarged scale. Thalictrum aquilegifolium purpureum presents flowers that are of conspicuous beauty. They are borne in giant heads, forming billowy-like masses that surmount the leaves and form commanding objects in the border during June and July. In the variety under notice the flowers are coloured deep mauve, and these are usually succeeded by seed-pods that are distinctly coloured a similar shade. It is an easy subject to grow in ordinary garden soil that is well drained, and is propagated by seed sown in spring, the seedlings, when large enough, being transplanted to nursery beds in the open, thereby ensuring strong plants to flower the following year.

Two new Thalictrums from China are among the most desirable of recent novelties. These are Delavayi and dipterocarpum. They differ from the plant already described, in that the individual flowers are much larger and are arranged at wider intervals on the elegant spikes. Delavayi is the dwarfer plant, with pretty lilac-coloured flowers. Dipterocarpum attains a height of 5 feet when fully established, the flower-stems being extremely graceful, with the lightly-poised flowers of a bright rose purple, to which the citron yellow anthers form an admirable contrast. These Chinese species enjoy an open, sunny position in any light yet rich soil. They do not object to a partially-shaded position, provided moisture is not excessive in winter, as cold, wet soil starves and weakens them to such an extent that they suffer in comparison with those in more favourable positions.

Coombe Court Gardens. Thomas Smith.

GARDENING FOR BEGINNERS.

HOW TO INCREASE HERBACEOUS PHLOXES FROM CUTTINGS.

THE usual way of increasing Phloxes is by division. Of course, this is by far the most expeditious, and one can depend on having good plants the following year; but when we come to compare the quality of the blooms with those of plants raised from cuttings, then we must leave the subject. The reason is obvious. In the case of division we have simply a portion of an old, partially worn-out plant, while from the cutting we have a young plant full of vigour. For filling beds the plants raised from cuttings are far more

1.—A PHLOX CUTTING WITH THE LOWER LEAVES REMOVED READY FOR PLANTING.

suitable in every way. The plants grow vigorously and uniformly, both as to height and size of flower-heads, and these are twice, or even three times, as large as those from divided plants.

The Phlox is a most useful and popular flower, becoming more and more so each year. This is due largely to the great improvement which has taken place in the colours and vigour of the plants. As above stated, there is no comparison between the heads of bloom produced by plants raised from cuttings a year old and those from old plants or pieces of old plants. There are two seasons which are suitable for rooting the cuttings—spring and autumn. Personally, I prefer spring, because we get the most vigorous cuttings full of life at this season, while in the autumn the vigour has naturally gone after the plants have been flowering, and we have to depend on secondary growth, too, for our cuttings. The weaker cuttings will readily root and grow into good plants, but there will be a lack of vigour as compared with the spring-rooted plants.

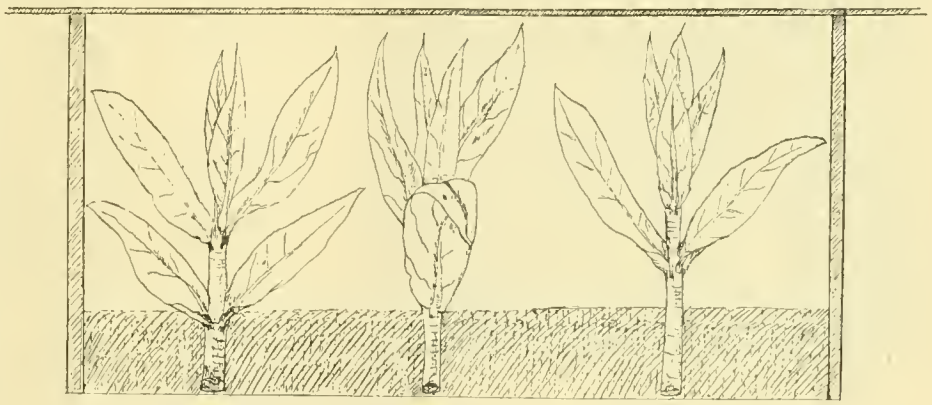
How to Take Cuttings.—The process of rooting the cuttings is a most simple one. I have found nothing better than a simple packing-case, with its bottom removed, and this set on good, sandy soil. The soil should be 10 inches deep and pressed firmly. Cover the surface with sand, and dibble the cuttings in rather thickly, as shown in Fig. 2. A sheet of glass should be placed over the case, and this should be thinly shaded by a little lime-wash to keep the strong sun from the cuttings. On no account should the cuttings be allowed to flag; this would retard the rooting process considerably. It is surprising how quickly these vigorous cuttings will root at this season of the year if properly attended to. The usual time is three weeks; this will be indicated by new growth at the points of the cuttings. As soon as this is observed, air should be admitted freely, and as soon as it is seen that the cuttings stand the free admission of air, the glass should be removed entirely. There should be no coddling. Grow the cuttings as hardy plants should be grown from beginning to end. There is nothing which fosters disease in hardy plants so much as coddling. Some recommend the propagating-case on warm manure. I do not like this. Place it on a warm border which is sheltered from winds. I think this is much better. As soon as the cuttings are well rooted, transplant to nursery beds of good soil. Give the plants plenty of room to develop during the summer months. Fig. 3 shows the kind of plant to be placed in the nursery bed. This is a sketch of an actual plant rooted last autumn, and which has developed several embryo buds at the base of the stem, just ready to burst into growth. This would make a fine subject for autumn planting in bed or border, and such a plant would give a good account of itself in the summer of 1914.

Phloxes are gross feeding plants, and resent drought as quickly as any herbaceous plant I know; therefore an abundance of water and an occasional dose of liquid manure will be of great benefit during the growing season. A. T.

3.—A ROOTED PLANT READY TO GO INTO A NURSERY BED.

HOW TO GROW VEGETABLE MARROWS.

THERE are few more popular vegetables with beginners in gardening than the Vegetable Marrow, and in many country districts extraordinary methods of cultivation are adopted. Size seems to be the sole object, and with this end in view the plants are gorged with liquid manure until their flavour is sadly impaired. To get good, sweet, medium-sized Marrows extraordinary preparation of the soil is not necessary. Just before planting or sowing, a hole about eighteen inches in diameter and the same in depth should be made for each plant, and with the bottom soil, which must be well broken up, but left at the bottom, some well-decayed manure ought to be mixed. This will tend to keep the soil cool and moist during the hot days of summer and autumn. It is usual to put out plants which have been raised under glass, and, if this is done, the end of May will be quite early enough for planting. But, contrary to what many amateurs suppose, seeds may be sown outdoors where the plants are to grow, and often give the best results. Where this course is adopted, the sooner the seeds are put in now the better. The danger with plants raised under glass is that too often they have not been sufficiently hardened off previous to putting them outdoors, when they receive a severe check, from which they rarely recover. Copious supplies of water during dry weather are essential for the well-being of the plants, and a sharp look-out must be kept for black fly.



2.—PREPARED CUTTINGS PLANTED IN SANDY SOIL IN A DISUSED PACKING-CASE AND COVERED WITH A SHEET OF GLASS.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Erica carnea.—This spring-flowering Heath is most useful for edging beds of shrubs, and usually makes a good show from February onwards; but having now gone out of flower, it should be cut over, and if the plants have become straggly, they may be taken up and replanted; or if a compost of sand and leaf-soil or peat is mixed up and worked in among the plants, most of the branches or growths will root freely into it, and they may be divided and replanted in the autumn.

Ribes.—Plants of this family present the most graceful appearance when allowed to bloom on the full length of the previous season's growth, though I have seen them kept trimmed similar to a clipped Box or Yew. When the plants are as large as their position warrants, I prefer to cut them hard back after flowering, thus securing long, free growths for blooming next spring.

The Flower Garden.

Annuals.—Where annuals were sown very early, thinning should have been done before now; but in many districts the wet state of the soil prevented sowing till quite the middle of April. These, however, should now be ready for thinning. Unfortunately, in many instances annuals are not thinned sufficiently, thereby losing a great deal of their beauty and shortening the flowering period.

Wallflowers should now be sown on rather a light piece of ground, and if it has been dressed with a little wood-ashes and lime, so much the better. This I have found to induce a much finer rooting system, which is an advantage, as the plants have often to be shifted during the heat of the summer.

Plants Under Glass.

Sweet Peas under glass are now blooming profusely, and plenty of water and manure will be necessary to keep them up to the desired standard. Give a little shade during the day when necessary, and keep the temperature down as much as possible, thus retaining the colour and substance in the blooms.

Begonia Gloire de Sceaux.—Cuttings of this useful winter and spring foliage plant should now be put in, using the young shoots that spring from near the base of the plants. These are preferable to the old flowering points, as they grow so much stronger and make much larger leaves.

Begonia Gloire de Lorraine.—Cuttings put in early in April should now be ready for removal from the propagating-frame, selecting a shady position for them near the glass. A further batch of cuttings should now be put in, and the old stools thrown away.

Euphorbia pulcherrima and jacquiniflora that were placed in heat a few weeks ago should now have made sufficient growth for the cuttings to be taken off. As these are apt to bleed very much, the cuttings should be placed at once in a pot of very fine, dry sand, afterwards inserting the cuttings singly in 2½-inch pots and plunging in a propagating-frame with a fair amount of bottom-heat.

The Kitchen Garden.

Cauliflowers planted out of pots must be well looked after if the weather is dry, as they take some little time to get a good hold of the soil, and before they do this there is great danger of the balls of soil becoming dry. Plants in frames or pots that are turning in must be liberally supplied with manure-water.

French Beans.—After this date it is not necessary to sow in pots or frames; but to keep up a regular supply, small batches should be sown in the open ground at fairly frequent intervals, bearing in mind that they go on cropping over a longer period in the open ground than they do under glass. Early batches that may be coming through the soil should have pots placed over them at night, should there still be signs of frost.

Potatoes.—Early Potatoes on borders are growing apace, and after breaking up the soil well it is advisable to keep it drawn up to the plants almost daily, when, in the event of frost, it may save them somewhat.

Later Batches should be hoed through as soon as the rows are discernible, but not at a time when there is a likelihood of frost, as I have often seen much damage done where the soil has been moved immediately beforehand.

Fruits Under Glass.

Watering.—At this season regular attention must be paid to watering the borders of fruit-houses. Where these are fairly shallow and well drained, it is almost impossible to give too much water, and certainly once a week water may be given if the weather is hot. Where the borders are not well drained, rather more discretion will be necessary, and an examination of the borders should be made before applying water, or stagnation may result.

Feeding also is very essential, and though much may be done with animal manure, it is to the judicious application of artificial manures that one looks for the best results. Trees or Vines carrying heavy crops will take a fair amount of manure, both animal and artificial, during the growing season; but young, free-growing trees or freshly-planted Vines will, in most instances, get sufficient nourishment from the newly-made borders, and the application of much manure in the young stage often ruins the constitution of the recipients.

Hardy Fruits.

Disbudding.—Continue the disbudding and thinning of Peaches and Nectarines as they become fit, nailing or tying in the young growths as soon as they are long enough. Walls sometimes keep a lot of moisture from the borders, and where the trees do not appear to be doing as well as they might do, it may be found they are requiring water, even though there may have been sufficient rain to keep the trees in the open well supplied.

Trained Pears.—After these are nicely set I make a practice of giving a thorough wash down with the hose or garden engine, this removing all the imperfectly-set fruits. If there is a heavy set of fruit, the trees should be gone over, removing a portion of the fruits, leaving those which in the small stage appear most prominent and likely to be in a good position for light and air, a second thinning being given at a later date.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sweet Peas.—Young plants should be examined to see that all are taking to their supports. Some cultivators now denude the plants of their tendrils, so that the plants are entirely dependent upon the support afforded by the tying material. The utility of this mutilation I have as yet failed to see.

Staking Carnations.—This operation must now be taken in hand, or the flower-stems may get broken over. Wire coil stakes are now the most popular, and they certainly have the advantage of being easily manipulated; still, if the aim of the gardener is to hide his art as far as possible, then I opine that the coil wire stake is rather too obtrusive, and I prefer Bamboo tips; but every man to his taste.

Planting Annuals.—Most of the annuals, both hardy and half-hardy, may now be planted out in prepared ground.

The Pleasure Grounds.

Mowing.—This work now demands unremitting attention. As far as possible, the mowings should be allowed to remain on the lawn, and if in any case they are unequally dispersed by the mower, a turn with a Birch broom will put things right. Of course, where games are being played it may be imperative to have the mowings removed. In such a case the utility of having a mower provided with a grass box is seen; such a machine, for example, as the Caledonia.

Rolling must also be attended to, especially where games are being played.

Clipping Edgings.—It seems common-place to refer to such an obvious duty as that of keeping edgings regularly clipped; still, it is sometimes postponed unduly, to the detriment of the whole surroundings. Cannot someone invent edging-shears with really secure handles? Even those with the bolt are not all they profess to be.

Damaged Trees.—It sometimes happens that the stem of an ornamental tree receives damage from a scythe or other sharp object, and as a consequence bleeding ensues. This is especially the case with resinous trees, such as the double-flowering Cherries. Various remedies may be applied. A good plan is to first smear the wound with Archangel tar, then give a thick coating of grafting-clay, and over this place a layer of moss and finish with a bandage of binder twine.

Plants Under Glass.

Cannas.—These will now be growing apace, and should have copious supplies of water at the roots, with frequent syringings overhead. Being gross feeders, they will be benefited by occasional doses of liquid manure.

Top-Dressing Liliums.—Many Liliums, more especially auratum and the varieties of lancifolium, are much benefited by receiving a liberal top-dressing, for which ample allowance should be made at the time of potting. A mixture of equal parts of dry cow-manure and fibrous yellow loam in a rather lumpy condition suits the purpose admirably. The top-dressing should not be pressed too firmly, as the fleshy roots of the Liliums revel in a rather porous medium.

Callas.—Except a retarded batch, these will now be better in the open air, and it is a debatable question whether they are better left in their pots or planted out. Good results can be produced by either system. Personally, I prefer the latter, as by it the finest foliage—half the beauty of the plant—is generally produced.

Fruits Under Glass.

Figs.—Except where fruit is ripening, fairly moist conditions must be maintained, and on no account must the trees be allowed to suffer for lack of water at the root. If the root-run is sufficiently circumscribed, trees swelling their fruits will be benefited by frequent applications of liquid manure.

Peaches.—The bearing shoots should have their terminals shortened to about four inches, to give more room to the succession shoots. In houses where the fruit is stoned, the trees will stand a minimum temperature of 60°.

The Hardy Fruit Garden.

Training Wall Trees.—Attention will have to be given to the nailing in of the young shoots and of thinning and regulating the growth. Where a leading shoot is making too luxuriant growth, it should be trained slightly downwards to check the flow of sap; if, on the other hand, a shoot is weakly, it should for the time being be trained in an upward direction to encourage the flow of sap.

Thinning Stone Fruit.—Apricots and Peaches should have their fruits thinned to reasonable proportions. The object should be to have the fruits as equally distributed over the tree as possible, yet it is well to secure, as far as possible, the largest fruits. Badly-placed fruits should be discarded as far as circumstances will permit.

The Vegetable Garden.

Vegetable Marrows.—Where they can have the advantage of frames or hand-lights for a time, this useful crop may now be planted out under conditions indicated on page 245.

Celery.—Where not already done, the trenches must be prepared forthwith, and the width must be regulated by the number of rows it is intended to plant in a trench. Manure liberally, and either surface the finished trench with some specially-prepared soil or with some of the original surface-soil. Do not make the trenches too deep; 6 inches below the ground-level is sufficient when finished off. The young plants should now have the lights of the frame removed to harden off the plants.

Peas.—By topping the earliest sowing a gain of a week or so will be obtained. Except on retentive soils, sowings made now and subsequently had better be in trenches to conserve the moisture later on.

Successions of Kidney Beans, Turnips and salading should be made. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

SPRAYING TRIALS AT WISLEY.

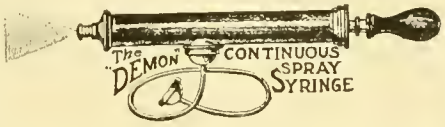
AN event of great importance to horticulturists recently took place at the Royal Horticultural Society's Gardens at Wisley, when spraying machinery from various sources was put to a severe test. The trials were thorough and exhaustive, and a deal of importance was attached to the spraying with unstrained lime wash, which placed fine nozzles to a very severe test. The judges were Professor E. S. Salmon, Professor H. M. Lefroy, Messrs. F. J. Chittenden, S. T. Wright, Henry Hooper, Cecil H. Hooper and C. R. Fielder. Every syringe and spraying machine was thoroughly overhauled and examined, and the cost taken into consideration in making awards.

Syringes.—In testing syringes the judges devoted special attention to the efficiency of the nozzles and their suitability for various washes. The efficiency of the nozzle was tested by directing the spray on to sheets of brown paper fixed to a temporary fence. An illustration of a syringe

THE TRAFALGAR SPRAYER IN OPERATION AT THE ROYAL HORTICULTURAL SOCIETY'S TRIALS AT WISLEY.

in operation appears on this page. Even with the best syringes a hollow spray was produced, and in this direction there is room for improvement. Two awards of merit were granted to syringes, viz., Four Oaks Undentable (angle bend excluded), sent by the Four Oaks Spraying Machine Company, Sutton Coldfield; and the Abol Syringe, from Messrs. E. A. White, Limited, Paddock Wood, Kent. The Abol Syringe gives a particularly good spray, and it is fitted with interchangeable caps, by means of which the user can vary the density of the spray from fine to medium or coarse, as desired. The Abol nozzle and the various parts, also the syringe complete with bend attachment, are illustrated on this page. The same nozzle applies to the Abol Knapsack Sprayer, which has the same fitting. The Four Oaks Undentable Syringe has a corrugated outer cover, so that the barrel within is undentable. Three grades of nozzles are supplied to this serviceable syringe, including a straight jet. An excellent spray was produced. Purser's Arnold Sprayer No. 2, from Messrs. G. and W. Purser, Limited, 92, Hatton Garden, London, E.C., and Corry's Syringe were both commended by the judges. From the official report we gather that "The judges considered the provision of means of carrying accessory nozzles on the hand syringes would be a great improvement. None had such a provision."

Bucket Sprayers.—The only bucket sprayer to receive an award of merit was one entitled the Demon Continuous Spray Syringe, from the Boundary Chemical Company, Cranmer Street, Liverpool. (See illustration below). This pump, which provides an excellent spray, is made to fit any bucket. We understand that this firm is introducing a simple clip to keep the tube in the bucket, also a container to hold the spraying fluid, which can be carried on a shoulder strap. The Trafalgar Bucket Sprayer sent by Messrs. G. and W. Purser,



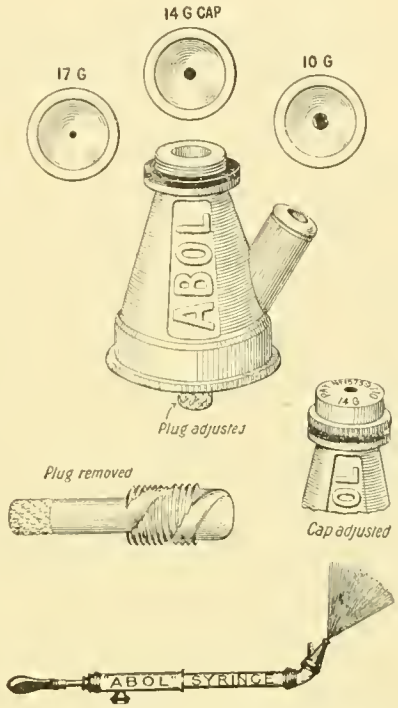
Limited, made a good impression, and on this page is seen an illustration of this sprayer in operation at the trial. In using some spraying materials the judges report that the provision of a strainer on the intake nozzle would be an advantage.

Continuous Pumping Knapsacks.—As the name implies, the knapsacks shown in this class have to be pumped while on the back. In the course of time this method, at present the most serviceable, may be superseded by knapsacks that maintain a continuous spray by means of compressed air. A good number of continuous pumping knapsacks were on trial, and awards of merit were made to the Abol, from Messrs. E. A. White, Limited; and Vermorel's Eclair No. 1 and Etame, both sent by Messrs. Cooper, Pegler and Co. The Four Oaks Centre Knapsack Pump was highly commended, and the continuous pumping knapsack from Messrs. Benton and Stone, Birmingham (Enot's), was commended.

Large Pneumatic Sprayers. — When more efficient, this type of machine will prove a decided advantage on the continuous pumping sprayer. The principle is that of pumping into the machine sufficient air pressure to expel all the liquid without further pumping. Messrs. Harjen and Co., 35, Noble Street, E.C., were highly commended for their battery filler and holders, which are of sound construction, and created a good impression among the commercial fruit-growers present.

Large Continuous Pumping Sprayers.—A very serviceable wheeled machine with powerful pumps, and known as the Four Oaks Large Continuous Pumping Battle Sprayer, was highly commended. This machine is furnished with two 15-feet lengths of armoured hose, and for spraying on a large scale it is decidedly useful. Messrs. Benton and Stone's Utility Sprayer, a wheeled machine with a powerful pump, was commended by the judges. It is particularly useful for spraying large standard fruit trees.

Hand Diffusers.—Quite a number of pneumatic hand sprayers specially constructed for greenhouse or conservatory work, and particularly useful to exhibitors who wish to freshen their exhibits at flower shows, were on trial. Most of them hold about four pints of water, and are easily manipulated. The Alpha Hand Diffuser, shown by the Alpha Extinguisher Company, was highly commended, and the Holder Hand Diffuser, by Messrs. Hartjen and Co., was commended. Both of these handy sprayers are fitted with an automatic stop cock, and so easily manipulated that any child might use them. The Vermorel Hand Diffuser, from Messrs. Cooper, Pegler and Co., and the Hand Diffuser No. 1807, by Messrs. Benton and Stone, were both commended. The Four Oaks Nozzles worked in a



THE ABOL SYRINGE, WITH NOZZLE AND ADJUSTABLE SCREW PLUG.

most satisfactory manner and were highly commended by the judges. These trials are of immense value to horticulturists of all classes, as the awards were made by competent judges after thorough examination.

A SNAP-SHOT PHOTOGRAPH TAKEN AT THE SPRAYING TRIALS.

POND WEEDS AND COPPER SULPHATE.

FOR several years past a considerable amount of trouble has been caused by the presence of a slimy-looking scum upon the surface of ponds, lakes, tanks and reservoirs in various parts of the country, and requests are constantly being made for information regarding a method of treatment which is likely to eradicate it without injuring Water Lilies and other aquatic plants and fish. The scum is caused by various kinds of Algæ, low orders of plant-life allied to the Seaweeds, including species of such genera as Anabæna, Spirogyra and Ulothrix. It is not only in the British Isles that these or allied kinds of Algæ cause trouble, for they are prevalent on the Continent, in America, the Malay States and elsewhere. In some countries much trouble has been caused by their presence in reservoirs of water intended for domestic purposes, for, in addition to the loathsome appearance of affected water, it has frequently an abominable stench, and numerous experiments have been conducted at considerable expense with a view to obtaining a cheap method of cleansing the water without making it detrimental to animal or human life. Some of the Algæ form a considerable amount of growth below the water, and one common kind is popularly called Flannel-weed on account of its matted, thread-like growths. In the first place, people tried to rake all this growth out of the water, but that only created a temporary relief, and after a few weeks the water was as bad as ever. Neither did cleaning out lakes and pools prevent the recurrence of scum; therefore attention was directed to finding a poisonous chemical which could be applied in small enough quantities to kill the Algæ without injuring other plants, fish, animals, or human beings. A good deal of experimental work was conducted in America and other countries, the Americans, perhaps, being to the fore. As a result of these experiments it was found that the most satisfactory chemical to use was copper sulphate, and that salt has now been taken into general use for the purpose. Highly poisonous in its action, one part to 1,000,000 parts of water is sufficient to kill the Algæ, but one part in 750,000 parts of water causes no injury to Water Lilies nor to fish. In fact, the Americans report that gold-fish and minnows live indefinitely in a concentration of one part to 200,000, whereas some of the coarser kinds of fish will stand a one in 50,000 concentration, but certain delicate kinds are killed in a one to 500,000.

Regarding its action upon animals and human beings, it is argued that in a one in 1,000,000 solution, 50 quarts of water a day would have to be drunk before an amount of copper would be absorbed to cause any unpleasant action, and that after a few hours have elapsed from the time that the copper sulphate has been used, there would be very little in suspension in the water, as a large percentage combines with the Algæ or is otherwise precipitated.

From this there is really little to fear from the use of such a poisonous substance, providing it is used with care. In the first place, a careful calculation must be made of the holding capacity of the pond or lake to be treated. Then the weight of the water may be taken at about sixty-two and one-third pounds to the cubic foot, and the copper sulphate used in proportion. It may be applied to the water in two ways—either dissolved in a little water and sprayed over the surface of the area to be treated, or tied in a canvas bag and drawn through the water until dissolved. When spraying the surface, it is as well to keep the mixture away from the leaves of Water Lilies, or it will probably burn them; once diluted with the water, however, it does not cause harm. On no account must it be used stronger than one part in 750,000, and it is better to adopt the one in 1,000,000 concentration.

In a Bulletin on the subject published by the American Department of Agriculture, it is said that Watercress beds are regularly treated in some parts of America without injury to the Watercress. An instance is also given of a Kentucky reservoir containing 25,000,000 gallons of water, from which in July, 1903, the smell became unbearable owing to the presence of various kinds of Algæ. This was treated with copper sulphate at the rate of one part in 4,000,000 parts of water. The Algæ was killed in two days, and the smell gradually disappeared. In addition to being used for killing Algæ, it is said that a concentration of one part in 100,000 kills typhoid and cholera germs in from three to four hours, and mosquito larvæ die in a concentration varying from one in 100,000 to one in 200,000. As a rule, about two applications a year may be expected to keep the water clean.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Spinach.—Too many amateurs and cottagers who pride themselves on the vegetables produced in their gardens either neglect Spinach or grow it in such a manner that it is impossible for its full nutrient and medicinal properties to be developed. It ought to be borne in mind that it is one of the most valuable vegetables of the garden and, as such, entitled to proper attention. To ensure success with it in the summer, an open situation where the soil is deep and fertile must be selected, as unless the conditions are favourable the plants will "bolt" in a most disconcerting and disappointing manner. Thin seeding must be the rule, to obviate the necessity of much thinning and to encourage a thick-leaved, splendid plant from the start. The thinning should be followed up until the plants stand not less than 8 inches asunder in lines about one foot apart. Spinach is an excellent crop to grow between other kinds, but it must have plenty of fresh air and unobstructed light to build up its properties.

Scarlet Runners.—Between the present date and the end of the month is a particularly favourable time to make the principal sowing of this indispensable autumn vegetable, and the finest results can be achieved only when the site chosen is deep and the soil contains an abundant supply of readily available food. Natural manure is to be preferred to chemicals for this crop; but still heavier returns will be secured when the first named is used as a base and the food is increased by the aid of the concentrated fertilisers. It is essential that the drills shall be flat-bottomed, firm and level, and in no instance ought the seeds to be set closer than 6 inches, while the plants of Sutton's Best of All demand 12 inches to 15 inches in which to display their wonderful powers of growth and productiveness. Ample space pays with these as with other crops.

Salsify and Scorzonera.—These are useful change vegetables of which one or two good rows may well find a place in gardens, but much space should not be accorded, as it can be more profitably used for other kinds. Those who can spare a little room should sow the seeds immediately, as it is well on the late side. The drills ought to be about one inch deep, and the seeds should be dropped in clusters of three or four at intervals of 8 inches. Later on, thinning will have to be done to single the plants, and hoeing will keep things going.

Potatoes.—Amateur and cottage gardeners who like to postpone their tasks until the latest possible moment must now realise that unless they plant any Potatoes still remaining out of the ground at once, the plants will not have time to make perfect growth, and, in the absence of that, one cannot expect to produce a heavy crop of excellent tubers. Late varieties only will be available, and the lines should not be less than 33 inches asunder, and 36 inches is to be preferred in most soils, while 15 inches ought to separate the sets in the rows. The deepest digging, with generous but judicious manuring, is imperative if the finest results are to be secured. Plants of early varieties will be coming through the surface, and, directly they are seen, earthing must commence, or a sudden frost may come along and cut them down. In addition to earthing it is wise to have at hand a supply of protective material to hover on the bed if it is needed. Immediately prior to this first earthing is a suitable time to apply a dressing of an approved concentrated food to the plants.

Hoeing.—It is imperative that the hoe shall be kept running between the rows of all vegetables from the time that the lines of plants can be clearly seen showing through the surface. A constant state of looseness, to the point of dustiness, conserves the moisture in the soil and thus encourages incessant progress in the plants; while at the same time weeds are prevented from growing to the stage of flowering and shedding their seeds. Beyond these two things, each of which is of great importance, hoeing admits rain freely to the soil, and it is, of course, followed by the sweetening and invigorating fresh air. Thus in the one operation the cultivator does immense good in the encouragement of satisfactory growth. H. J.

THE EDITOR'S TABLE.

A White Pelargonium Sport.—Mr. F. W. Digwood, The Gardens, Harewood Park, Ross-on-Wye, writes: "I am sending some blooms of a white Pelargonium for your opinion. It is a sport from the pink one I enclose, Withyham. I have grown it now for five years, and it seems to stand all right." The flowers sent are remarkably fine, being over two inches across, pure white, with crimson stigmata and borne in large trusses. The petals are delicately fringed, and we regard this variety as an improvement on Purity.

Rose Niphetos from Bishop's Waltham.—Mr. E. Molyneux, Swanmore House Farm, Bishop's Waltham, Hants, sends some superb blooms of this old but fragrant and good white climbing Rose. The flowers that Mr. Molyneux sends prove, as he states in his letter, that Niphetos is still far from being played out, notwithstanding the many new varieties that are constantly being raised.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artisti or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

To Our Readers.—In this Special Double Number, which is twice the ordinary size, will be found an illustrated review of the Royal Horticultural Society's Spring Show, which was this year held in the Chelsea Hospital Grounds instead of the Inner Temple Gardens. For some years past the Temple Show has been so overcrowded that it was impossible for visitors to see the exhibits with any degree of comfort, and the Council very wisely decided to transfer the show to Chelsea, where the great International Exhibition of last year was held, and where there is ample space. Readers who have friends in this country or abroad who are interested in gardening should post them a copy of this issue.

Disbudding Roses.—During the next few weeks the disbudding of Roses, where such a course is adopted, will need attention. Where large, bold flowers are desired, there is no doubt that the removal of the weakest and badly-placed buds, leaving only the best one of each truss, has much to commend it. There are many, however, who prefer to allow their Roses to develop naturally, caring not that the flowers are small. The advisability or otherwise of disbudding is therefore purely a question of individual taste.

The Bardfield Oxlip.—This is the most beautiful of our native Primulas, and one that is by no means widely distributed. In common with the Cowslip, it has been flowering very freely this year, and recently, when in the Bardfield district, we noticed a very beautiful colony in a rather thickly-wooded plantation. Curiously enough, the natives of Essex call the Cowslip Peggle or Paigle, and the Oxlip is known to them as the Cowslip. The true Bardfield Oxlip is a plant well worth a place in the best gardens, and will thrive well in moist, loamy soil. It is generally regarded as a natural cross between the Primrose and Cowslip, but of this there is some doubt. Certainly in appearance it is midway between the two.

Honesty in the Wild Garden.—A very pretty effect has been noticed over a period of several weeks at Kew by an informal group of the common Honesty (Lunaria annua, or L. biennis as it is often called). Seeds were, apparently, sown broadcast among hardy Ferns growing in a thin shrubbery, and the plants, now a couple of feet high and masses of flowers, have not the slightest appearance of formality. Contrasted with the various shades of green seen in the young fronds of the Ferns and the leaves of the shrubs, the reddish flowers are seen to considerable advantage, and one cannot but admit that the plant is much prettier and better fitted for this method of culture than for planting in formal-shaped beds. As the seeds can be sown in the places where the plants are to flower, a good deal of trouble in transplanting is saved.

Azaleas at Kew.—Anyone who is anxious to see the Azaleas in flower at Kew would do well to pay their visit before the end of May, for the plants will be at their best about the last week of the month. Of the many outdoor displays at Kew, the show of Azaleas is one of the best, and large numbers of visitors make annual excursions to see them. Situated between the Palm House and the Rhododendron Dell, the Azalea garden is to be found in an opening amid large specimen Beeches and Oaks, the plants being arranged in a large number of beds on a smoothly-kept lawn. Here almost every shade of red, yellow and pink is to be found, and it would be difficult to imagine a finer picture than the masses of showy yet delicate colours of the flowers amid the setting of bright green leaves of the trees around.

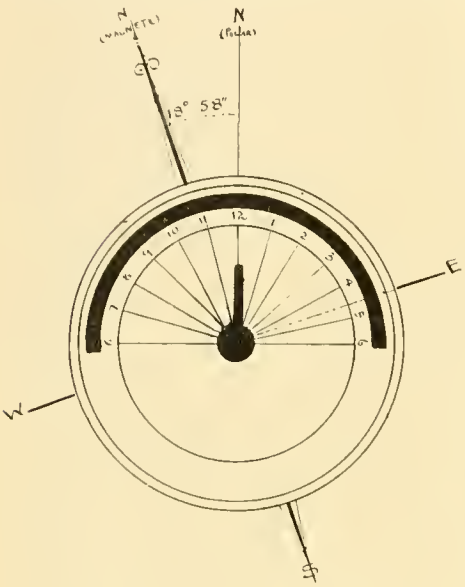
Cunningham's White Rhododendron.—This is a fairly well-known evergreen Rhododendron, but its true value is known to few, or it would be cultivated much more extensively. Rhododendron Cunningham's White is a very hardy sort, escaping a severe winter when even the common R. ponticum has suffered. It also thrives in soil when lime is present; in fact, its general value, both in hardiness, growth and habit, is so good that the plant finds favour among propagators as a stock for the choice sorts, particularly on the Continent. For covert planting and shrubbery culture Cunningham's White equals, or even surpasses, R. ponticum. It flowers earlier than R. ponticum, being fully open usually about the middle of May. The flowers are white, with a faint flush of lilac or mauve, which as they reach maturity is less pronounced. Layering is the most satisfactory method of propagating this Rhododendron.

"Fire" in Tulips in 1913.—Owing to the inclement season, the flowers and foliage of Tulips have in many gardens been much affected with a fungus, known botanically as Botrytis galanthina. It shows itself as ugly, withered-looking spots, which, in damp weather especially, are often covered with "mould," and which rapidly extend in size and infect adjacent parts. If the attack is not too bad, constant picking or cutting off all the bad parts is advised. If the attack is so bad that nothing practically would be left if all the diseased places were removed, it will still be best to resort to the knife. The bulbs may then be left where they are to ripen off, or they may be lifted with their roots and put into boxes filled with light soil, where the same process may take place. Tulips should *not* be planted in the same soil the following year. Undoubtedly protection from cold and wind helps to keep the plants healthy. A constant watch should be kept at all times for the appearance of the spots, which should at once be removed and burned. Bulbs which have had their leaves destroyed by "fire" will be weakened in proportion to the extent of the damage done, and must not be expected to produce full-sized blooms the following year.

CORRESPONDENCE.

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

A Crippled Pear Tree.—I was much interested to see the illustration on page 238 of last week's issue of a Pear tree which, though blown over, still continues to flower and bear fruit. Some years ago I had under my charge a half-standard Blenheim Orange Apple tree which, during a gale, was blown over in the same way. As the tree



A.—SUNDIAL FIXED FOR ENGLAND.

was about thirty years old and in its prime, and as it was not an inconvenience, it was decided to leave it. For some years afterwards, and as long as it was under my observation, this tree continued to bear splendid crops of first-quality fruit. Indeed, the check to the roots was undoubtedly beneficial, as the tree, in its crippled state, cropped more freely than before the accident. Many of the large roots were quite bare, but, of course, sufficient remained in the soil to nourish the tree.—A. B. ESSEX.

Cutting the Foliage of Bulbs.—Your useful reminder on page 225, May 10 issue, of the value of removing seed-vessels from bulbs is accompanied by another valuable one advising that the leaves should not be cut. The cutting of the leaves of bulbs is a much more common practice than is generally believed by those who grow them in a rational manner, and who allow the foliage to ripen before removing it, thus giving the bulb all the chances possible. One regrets, also, to see that so many leaves have been cut from Narcissi in order to supply the demand for their own foliage to accompany the flowers. It is impossible not to sympathise with the taste which counsels the use of their own foliage with such flowers, as they generally look better when so displayed than when set up with other leaves. One is led to pen this note from seeing so many Daffodils cut remorselessly down for foliage to use with the flowers. It is little wonder that so many complain of Narcissi refusing to flower and even dying out. A little consideration in the way of selecting foliage from several instead of from one or two plants only will palliate matters, but it cannot be too frequently impressed upon all that bulbous plants suffer greatly when their foliage is cut off prematurely.—S. A.

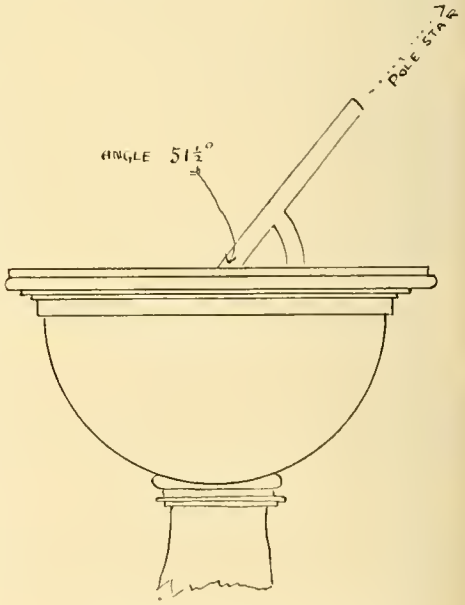
How to Grow Gentiana verna.—The Vernal Gentian is such a lovely flower that its requirements deserve full consideration at our hands. To succeed with it is to be the possessor of one of the choicest gems of the alpine flora. Unfortunately, just as with the Gentianella, G. acaulis, it is impossible to assert that it will succeed in any particular garden under certain treatment. In many gardens it has to receive special treatment, while in others it appears to grow with the minimum of difficulty. In my own garden I have now been successful with it in a low, rather moist part, exposed to the sun, however, but surfaced with stone chips, and these are kept renewed and brought up to the neck of the plants as there is occasion. I have seen it growing admirably on the top of a low retaining wall, with plenty of stones about it. In some places, however, I find it thrives well without any special care, save that afforded other alpines.—S. ARNOTT, *Dumfries, N.B.*

How to Set a Horizontal Sundial.—If the sundial is for use as garden ornament, the following is usually considered a sufficiently accurate method of setting. Select a bright sunny day (as near as possible to the summer solstice is generally preferred), and, first making sure that the dial-plate is *perfectly level*, so arrange the dial that at twelve o'clock the shadow of the gnomon (or style) points to the XII. on the dial-plate. If, however, greater accuracy is desired, the first thing to be considered is whether the dial itself is made and marked correctly for the district in which it is to be used. A sundial made for the South of England would be useless in the North, owing to the fact that the style (or gnomon) must point to the Pole star, the altitude of which varies with the latitude. The angle formed by the style with a plate made for London would be 51½°. In Newcastle the angle would be more obtuse, being 90° at the North Pole. South of London the angle becomes more acute the nearer the Equator is approached. Assuming that the dial-plate is correct for the district, a line drawn from the centre of the style, through the XII. mark, should point to the Polar or Geographical North, which in England may be taken as 18° 58″ East of the Magnetic North. Even with the utmost care having been taken in the manufacture and fixing of a horizontal sundial it can only be considered as supplying an approximate measurement of time. The accompanying diagrams illustrate the dial fixed for England in relation to the cardinal points as given by a mariner's compass (A) and the elevation of the style above the dial-plate for London (B).—GEO. DILLISTONE.

Primula cockburniana: How Far is It Perennial?—This question is asked by Mr. Arnott in your issue of May 10, page 229. Under certain conditions it is perennial, but sown annually and treated as a biennial better results are obtained. I have a bed here in which several plants flowered last year, and they are coming into flower again, clearly pointing to their perennial character. The position is in full sun. They are growing in very gritty soil, with a great proportion of broken chips mixed with loam, sand and leaf-soil. A foot of this soil on the top of another foot of coarser drainage will be found suitable to keep the plants in health for several years.—JOHN MACWATT, *Morelands, Duns.*

—— Mr. Arnott's experiments with this charming plant are interesting, and I hope he may yet succeed in establishing its reputation as a perennial. So far, our experience here is but a confirmation of his. We have grown it both as a pondside plant, with its feet in water, and in a high and fairly dry position. It flourishes either way, but proves nothing but a biennial with us. There is no doubt that this and many other of the newer Primulas are but little understood at present. Some enthusiasts will, I hope, take them in hand and learn and teach all about them, so that we may handle them with the certitude and assurance with which we now handle Auriculas and Primroses. When they are better understood, the new-comers of the Primula family have a great reception awaiting them.—ROBERT PEEL SHELDON, *Hawkhurst, Kent.*

—— I am afraid the most ardent admirers of this beautiful Primrose will have difficulty in substantiating its claim to be a perennial. True, there are instances where it has stood through three winters, as has been the case with those under the care of my old friend Mr. William Hutchinson at Terregles, as cited by Mr. Arnott on page 229 of THE GARDEN for May 10; but one or two isolated instances are not sufficient to warrant its being classed as perennial. I have grown this lovely little gem for several years, and have also been fortunate in keeping it through two winters in certain positions; but the great majority of the plants were nothing more or less than biennial. The plants, which survived two winters, were planted fairly high up in a pocket, facing east, in a thoroughly well-drained part of the rock garden. Others grown under similar conditions, but with a northern exposure, failed to live through the winter. The soil in which they were planted was a fairly light compost of yellow loam and leaf-mould, with some rough river sand added. The freedom with which P. cockburniana seeds and reproduces itself by this means amply justifies its being treated as a biennial; and really, after all, is it worth while trying to make it otherwise?



B.—ELEVATION OF STYLE ABOVE THE DIAL-PLATE FOR LONDON.

Beautiful little groups of year old plants are exceedingly effective, the richness of the colouring being very conspicuous, and I do not think that its biennial character will be in the least a drawback to its popularity. I shall, however, be interested to learn the results of Mr. Arnott's experiments with this very charming Primula.—WILLIAM LITTLE, *Ochilview, Bridge of Earn, N.B.*

Saxifraga Rhæi.—This Mossy Saxifrage is one of the freest flowering we have, and several fine clumps are now quite a mass of bloom. For several years they have been established on the rockwork of a bridge, with a very shallow root-run, subjected to extremes of heat and drought, cold and rains, and under trying conditions which many other plants resent.—E. BECKETT, *Aldenham House Gardens, Elstree.*

Silene acaulis for the Rock Garden.—Mr. Farrer, in "The Rock Garden," page 48, says: "Do not trouble about S. acaulis. It may grow well in soil or moraine, but it rarely, if ever, flowers as it should." I trust enthusiasts will not be put off by this, for I have just seen a patch in an alpine garden here so studded with buds that when it flowers it will be a sheer mass of pink which could not be beaten even in the Alps, except for size of the mass. It is growing in a light, limy loam in full sun with no special preparation. So let us still experiment with this exquisite native until success rewards our efforts.—E. B. ANDERSON, *Dublin.*

The Fifty Best Alpines.—I have been sorely tempted to send my list of the fifty best alpines, but I think the subject has been dealt with sufficiently. I only wish to remark that in none of the lists sent, nor for that matter in any catalogue I have (and their number is legion), do I find a plant mentioned which is very distinct and well suited for rock gardening. It rejoices in the name of Tetraganobolus siliquosus [Lotus siliquosus.—ED.], at least so it was named to me by a resident of the neighbourhood where I found it, viz., Walchensee in Bavaria. At one time it threatened to be too great a robber of space in my small rock garden, and even now no stones can keep it in bounds. It comes out the other side and seeds freely. It has a pretty lemon-coloured Pea blossom. I am no botanist, and cannot describe it otherwise than as a creeping Pea.—ELLEN E. STEVENSON.

A Living from the Land.—In the central column of page 236, THE GARDEN, issue May 10, there appears a splendid answer to a correspondent seeking for advice on the above subject. Other readers of THE GARDEN who may be contemplating working land in order to make a living from it should also read this reply. Sound advice is given, and such is always beneficial to enquirers. Facts must be faced and every detail connected with the matter duly studied. If would-be florists and market-gardeners would do all this, there would be fewer unfortunate ventures in this direction. A good home and a regular income should not be given up without much careful thought. It has been my duty to answer many enquiries such as the one referred to, and while giving due encouragement, I have never hesitated to point out all the drawbacks I am acquainted with, this, because I know of many failures as well as successes.—B.

Toads in the Garden.—As stated recently in your journal, the value of toads as destroyers of insects in the garden is great, and they should be encouraged in every way. Many people dislike toads, and call them beastly and so forth. A closer acquaintance will, however, dispel this, for the eye of the toad is very beautiful, while its manner of disposing of insects and worms is most interesting. It will watch its prey for some time, and at the least sign of movement the long, glutinous tongue of the toad is protruded with a snap and the insect disappears. If it happens to be a vigorous beetle, its struggles against the sides of the toad may be seen for some little time. Toads may be encouraged in the garden by forming them a cool and shady retreat with a few bricks. One lived in this way in my garden for a couple of years, until it unaccountably disappeared. It was so much at home that it would come out of its retreat to be fed when I whistled for it, returning to its quarters when satisfied. It would readily eat an insect from off my hand. A fact that interested everyone was that it would eat wasps and bees as readily as anything else. The toad being a cold-blooded animal, their stings had no effect upon it. To illustrate this I used to catch some wasps and imprison them under a bell-glass, and then slip the toad in with them. One by one as they came within reach of his tongue they were gobbled up. After the disappearance of my specimen, changes took place, which has prevented me from acquiring a successor.—H. P.

The Narcissus Fly.—I have been much interested to read the article by G. St. Ox in your issue of the 26th ult., page 203, on merodons. I would like to add a little from experience also. The fly is to be recognised partly by its queer hum or sing of its wings and by its yellow or red lower part of its body, and it is easily confused with another fly, a sort of darting, hovering one that has a pointed tail. This is not a merodon fly. A fact of interest is that a fly will nearly always lay its eggs in the same bed and close to where it itself was hatched, and I think we can from this presume it will hang about that part of the garden border or bed. I have as far back as seven or eight years ago discovered that eggs late hatched do not mature into full-grown grubs in time to leave the bulb early in February or the end of January, and so remain on or eat their way into a neighbouring bulb. And, further, bulbs that are imported from abroad are far more infected with grubs than those grown in our country. Q.E.D., buy home-grown bulbs. Last year we had great fun with a net as described in the article, and digging up all our bulbs in the autumn, with carefully scrutinising those replanted, has resulted this year in no merodons being caught, though we have looked for them for days. We think we have seen one once.—W. F. M. COPELAND.

MR. S. T. WRIGHT.

FORTHCOMING EVENTS.

May 27.—Rhododendron Show at the Royal Horticultural Society's Hall (four days). Bath and West and Southern Counties Society's Show at Truro (five days).

WORKERS AMONG THE FLOWERS.

MR. S. T. WRIGHT.

IT is with pleasure that we publish in this special issue a portrait of Mr. S. T. Wright, the genial superintendent of the Royal Horticultural Society's Gardens at Wisley. It is given to few men who are engaged in horticulture to come so prominently before the public as has Mr. Wright during the last seventeen years, the period that he has held the office he now occupies.

Practically the whole of his working life has been devoted to gardening, his horticultural career commencing at Snelston Hall, Derbyshire, under Mr. McPherson, who was regarded as one of the finest fruit-growers of the day. From Snelston Hall Mr. Wright went to Alton Towers under Mr. Rabone, and from there to Wood Seat in Staffordshire, the gardens of which were famed in those days for Grapes. After two years there as fruit foreman, the subject of our portrait went as head-gardener to C. B. Kingdon, Esq., Ednaston Lodge, Derbyshire, a position that he occupied for seven years, until the estate was sold. Ross, near Hereford, was his next venue, head-gardener to C. Lee-Campbell, Esq., Glenston Court, being his position in the West Country. Here, in addition to the gardens proper, Mr. Wright had charge of extensive fruit plantations, and we find him spending ten years in this position, relinquishing it only when the lease of the estate expired. It was fortunate for horticulture generally that this expiration caused him to retire from Glenston Court, because at that time—in 1895, to be precise—the Royal Horticultural Society were casting about for a superintendent, and their choice fell on Mr. Wright, who commenced his duties on January 1, 1896.

How numerous and varied these duties are, few people really know. One would naturally assume that the supervision of the gardens at Wisley, with their many ramifications, would be sufficient in itself to keep him fully occupied. Yet until about two years ago, when Mr. Fielder was appointed to that position, he acted as official adviser of the society, and in that capacity visited and advised on Fellows' gardens in all parts of the United Kingdom, with the result that there are few localities with which he is not familiar. Then we find him at every one of the fortnightly shows held by the society at Vincent Square, superintending the erection of staging, spacing of exhibits, and acting as a sort of walking encyclopædia to any of the Fellows who may require his assistance. During the first season he is usually kept busy naming fruits, and it is doubtful if anyone knows hardy fruits better. Even obscure varieties of Apples and Pears that the average gardener has seldom or never heard of are an open book to him. It is at the great exhibitions, such as the Temple and Holland House, that Mr. Wright's genius as an organiser is put to the supreme test. Probably no one but he knows the difficulties that have been encountered at the Temple Gardens during the last few years in packing numerous and ever-expanding exhibits into a limited space, and it must have been a great relief to him this year to have the larger space in the Chelsea Hospital Grounds for arranging the great spring show. Imperturbable and courteous always, Mr. Wright is regarded by all those privileged to know him as the right man in the right place. That he may long be spared to fill it is our earnest wish.

THE FLOWER GARDEN.

SEASONABLE NOTES ON DAHLIAS.

THERE is perhaps no other florists' flower which has experienced such ebbs and flows of popularity as the Dahlia; but it is now, and has been for several years, on the rising tide, and it is likely to continue to advance in general esteem as long as we find the raisers of new varieties bringing forward the splendid qualities that have characterised the introductions of recent years. The improvement has been marked in every desirable direction, and if some genius would impart delightful perfume to the best quality of the day, we should have an ideal flower for our gardens.

The Dahlia is not a plant for one man, for one class of men, for one garden, or for one district, since it will grow anywhere, provided that the owner desires, or, better still, determines, to grow it. I have seen blooms in a backyard only a few feet square that would have graced any show-board in the country, and the cultivator was a shoemaker by trade.

There is one respect in which growers are prone to be at fault. They have a collection of varieties that has been steadily built up and contains, in their opinion, the very best. So far good; but they are too apt to rest content with those they have, and it is a difficult matter to persuade them to make changes. Herein they are correct to a point. To retain old favourites is sound from every point of view, but to fail to try one or two fresh ones every season is a short-sighted policy that can only result in the collection gradually, or rapidly, falling behind. It is quite immaterial how many varieties are grown; some additions must be made each year, and now is the time to do it. In THE GARDEN the leading specialists in Dahlias—as in other flowers, too, for that matter—advertise their wares, and they have at this moment excellent stocks of the leading novelties, and from them a choice ought to be made. No matter how superb a variety may be, trial will assuredly bring forth one that is superior, when the old stager will have to take a back place. On the other hand, the new-comer may not please, in which event it is safe to assert that the grower will not make a special effort to perpetuate it. The rule must be to make experiments with a view to keeping in the front.

Preparing the Soil.—This is an important task, and it ought to be put in hand immediately, that is to say, where it has not yet been accomplished. The plants are gross feeders, but this by no means implies that rotten manure should come in contact with the roots; on the contrary, they will resent it. Form deep stations and with the bottom mix the manure, and above that put a 6-inch layer of the finest fresh soil at command. The roots quickly secure a hold, and later, as progress is made, the plants derive immense benefit from the excellent food put down below. There is no fear of its loss in so long a season of growth as the Dahlia demands; in fact, it is the other way about, since Dahlias will exhaust the supply before the end and will require special assistance from the cultivator.

The Stakes.—When Dahlias are admirably grown in excellent soil, they make plants which offer enormous resistance to the wind, and as the shoots are always brittle, there is serious danger that there will be disaster unless the staking is done with care and efficiency. The one principal support should be placed in position immediately the preparation of the station is completed, and not afterwards, as is sometimes done by the novice. Driving down a stout, pointed stake when planting has been accomplished is an error that causes injury to the roots, and the results are thus prejudiced from the outset.

Planting.—In some districts planting will have commenced, but one gains little by over-haste and runs risks that are not worth accepting. If the whole of the work is finished by the middle of June, the results will be perfectly satisfactory, provided, of course, that all other essential details are correctly carried out. The plants are decidedly tender, and even when protection is afforded it is difficult, and sometimes quite impossible, to prevent a check to advance, and this is in no sense desirable. With plants that have been thoroughly hardened and are splendidly rooted, the work may be done at discretion, but dull, showery weather is most conducive to success. J. H.

SHOW AURICULA FLAME, A BEAUTIFUL VARIETY WITH RUBY CRIMSON FLOWERS.

AURICULA FLAME.

If there was one Auricula which by virtue of its brilliant colour stood out from all others at the recent Auricula show held at Vincent Square, it was the variety Flame. It was shown in Mr. J. Douglas' winning exhibit in the well-contested class for twelve Auriculas, dissimilar. It is a typical show variety, with broad handed petals, and paste on leaves and flowers. The colour, which is the remarkable feature of the variety, may best be described as a brilliant ruby crimson, and of a vivid glow that made it conspicuous among all other varieties.

TULIPS AT VINCENT SQUARE.

May 14.

No account of the display of Tulips in the Hall on May 14 would be complete without a few words by way of preface, on the eternal subject of the weather. It would be unseemly for me to describe it; but as the late Archbishop Magee said, when some footman anointed the episcopal coat with soup, "Will some layman please make an appropriate remark?" There were unmistakable signs of what the flowers had gone through, not the least significant being the empty benches which had been reserved for the competitive displays of "Cottages" and "Darwins," which one fondly hoped were going to initiate a long series of friendly contests among the amateur Tulip-growers of Great Britain. Oh! Mr. Curtis, why did you not bring some of those three hundred fine flowers you left at home? Oh! Mr. Faudel-Phillips, why did you not find it in your heart to cut just two or three dozen from that glorious display at Balls Park? Surely they would never have been missed! Canon Fowler and Mr. Morton had the best intentions possible, but "fire" and an unkindly soil had defeated them. A seasonable toast, good readers: "Another year, another weather and some competitors." Enough of the show of empty benches, euphemistically called on this occasion "Tulips."

As the blackest cloud always has a silver lining, so these desolate, untenanted spaces had a brilliant and varied surrounding of fine groups and isolated vases, which for a time turned the large Hall into a delightful fairy-land of gorgeous colour. I cannot recall the time when there were so many large

trade exhibits exposed to view at once. Sutton's, on the right hand of the door, under the able generalship of Mr. White, had a splendid collection of good varieties beautifully staged and excellently grown (not, by the way, in Holland, as a friend suggested to me, but at Reading). Carters occupied their accustomed place immediately facing the entrance, with a bold arrangement in big, tall vases, in the centre of which was a mass of what was the undoubted novelty of the show—the white, branching Tulip, M. S. Mottet, raised by M. Bony in France, and to whom the scientific committee gave a certificate of appreciation when, on his behalf, I placed some growing in pots before them. As I am probably the only person who has a good-sized bed of them in his garden, I would like to say that I have found the branching to be constant, provided the bulbs are liberally treated and only the biggest ones planted, and that the irregularity in the size and development of the blooms and the length of the stems make a decided and pleasing alternative to the soldier-like regularity of the ordinary display. Messrs. Hogg and Robertson had a fresh and varied assortment from "Holland in Ireland." They can get fine blooms over there, and no mistake. Millet (rich crimson) and Herta (after Pride of Haarlem) were both good. Wales was quite the equal of Ireland in tint and size, and in the person of Mr. Watts showed what the gallant little land can produce. His Baronne de la Tonnaye must have been about the high-water mark of what the flower is capable of doing. His The Fawn was also excellent.

To me Dobbies is Cuthbertson—Sweet Peas and Potatoes. I will have to add Tulips soon I hope. They had a grand lot of Sweet Peas—beautifully grown, it almost goes without saying—but I was hardly prepared for their Tulips. Poor things! Mr. Ireland had stuck them away right at the back in two somewhat hard and stiff lines, as if he were afraid his old favourites might be jealous of them were their charms more attractively displayed. Possibly he was right, for in freshness, size and colouring the Tulips here had no superiors, if they had any equals, in the Hall; but it is only fair to state that they had passed the last week of their life under the kindly protection of a glass light. Lucky Ireland! he covered them in the nick of time. He put the lights on on April 9, and on the 11th there was a severe hailstorm.

Messrs. R. W. Wallace of Colchester exhibited several good new varieties. Grenadier, a large vermilion self; Quaintness, faded mahogany with coppery yellow edge; Boadicea, a very large flower, dull mahogany red, edged orange, very like Hammer Hales; and Beauty of Bath, a very pale Fairy Queen, were four prominent ones. A small collection from Mr. C. Bourne was very attractive. I noticed here Solfatare, the beautiful pale yellow sport of Fulgens; that acme of refinement, Louis XIV., deep rich purple with golden bronze edges; and Mrs. W. O. Wolseley, one of my own finds in a cottage garden about a mile from my home, and which I always claim as one of the hardiest of Tulips—it is a long, pointed, medium-sized flower of deep rich crimson. Mr. S. T. Wright, the superintendent at Wisley, told me it had stood the rough weather wonderfully well, and is one of the very few unspotted ones at Wisley, where it has been much admired.

Messrs. Barr and Sons were at one end of the hall, and had a large display. On the whole their flowers were on the small side, or they would have had a higher award. Prominent here were Fontanelle, a dull ruby rose Darwin, very distinct; John Ruskin, the beautiful art combination of salmon pink, pink and yellow; Emerald Gem, an orange rose with an olive green base, lovely and distinct in the garden; Panorama (also called, curiously enough, Fairy), an immense orange crimson; and Flamingo, the long pale rose and pink Darwin.

Messrs. R. and G. Cuthbert had a large display, but of uneven quality. I thought they would have had a higher award, but their little joke was lost on the judges. Brother (Fra) Angelico was either made into a woman or given a wife, for there he was labelled "Fran Angelica." Dom Pedro here was excellent. I have grown it for years, but its quiet beauty was lost on me till I saw a bunch of it pot-grown on Messrs. Sydenham's stand at the Birmingham Show. "Union Jack is lovely," one lady said to another as I was standing taking notes. It is a broken "byb.," rather pale in shade.

Messrs. James Veitch and Sons displayed a very interesting collection. To me it was particularly so, as I expect for the first time in his life "Sir Harry" appeared in public as a Tulip. There is a good illustration of it in my book on Tulips. Suffice it to say now it is a large flower of a pretty shade of heliotrope pink, distinct and sturdy in a garden.

Messrs. R. H. Bath's collection was very representative. Among the many good things was the lovely Darwin, Massenet, which was the only Tulip to gain an award of merit at the committee meeting. It is a flower well apart from others in its colouring; pale soft rose, edged warm flesh, with a conspicuous deep blue base, is as near as I can get in my description. Melicette, one of my favourite manves, and the rich rosy red Orion, one of the red Darwins I like so much, took my eye. I also noticed Admiral Kingsbergen, one of the most effective of all broken red and whites, and Miss Doris Diggle, a bright little striped bloom with maroon and lemon colouring. Mr. Leak tells me he has some fine stocks of these rectified Tulips at Wisbech, and that he thinks the tide is turning in their favour. It has already done so in America, and buyers from Uncle Sam are rather keen after them.

HELICHRYSUM BELLIDIOIDES, A CHARMING LITTLE EVERLASTING FLOWER FOR THE ROCK GARDEN.

(*See page* 254.)

My last words are to record the small and diversified collection from the new venture, the Wargrave Plant Farm. I liked the mauve Glory of Walworth very much. A pure white base does set off a flower, and gives it a look which nothing else does.

Before buying-time comes round I hope to give, with the Editor's permission, a series of selections, for one has only to go to such a show as that about which I have been writing to realise the bewildering immensity of choice which to-day is ours.

JOSEPH JACOB.

A USEFUL PLANT FOR CUTTING.

(THE CUPIDONE.)

THE Cupidone, as Catananche cærulea is popularly called, was in olden times employed to induce love, and the name of Catananche is said to be derived from two Greek words signifying compulsion,

the idea being that it had the power of causing an irresistible impulse to love. How it was so applied does not appear to have been handed down to these prosaic days of ours. It is as a garden flower, however, that it is prized in our times, as its flowers are invaluable for cutting. The Cupidone is, however, not too hardy, and should have a dry soil and a sunny position, where it will generally thrive for a considerable number of years. The flowers, which are borne in August and September, are of a nice blue, but there is a white variety, alba, and one with white and purple blooms called C. c. bicolor. Seeds may be sown in spring in the same manner as those of other perennials and treated similarly S. A.

ROCK AND WATER GARDEN.

AN EVERLASTING FLOWER FOR THE ROCK GARDEN.

(HELICHRYSUM BELLIDIOIDES.)

THIS dainty little New Zealand plant, with its Daisy-like blossoms of about half an inch in diameter, is an excellent subject for the rock garden, and worthy of the award of merit bestowed upon it by the Royal Horticultural Society some weeks ago. The flowers are pure white, with a greenish yellow disc, and borne in great profusion on stems 3 inches or 4 inches above the prostrate growths, with small, ovate, entire leaves. It appears to be quite hardy, the illustration on page 253 being taken from a plant that has been growing on an exposed part of the rock garden at the Botanic Gardens, Cambridge, for the last two winters without having been affected in the slightest. It succeeds in a good, gritty soil, and is readily raised from cuttings or by divisions, and will be a great favourite when it becomes better known. F. G. PRESTON.

A BEAUTIFUL ROCK GARDEN VIOLET.

(VIOLA PEDATA.)

THIS is a very beautiful, but, at the same time, a notoriously difficult alpine to cultivate. This is admitted by everyone who has had any experience of its cultivation. It is of no use saying that its culture can be successfully attempted by using any special soil or situation, although it is said to thrive in pure sand in the higher altitudes here, and in the lower parts the addition of some loam and leaf-soil or peat to the sand is helpful. It occurs to me, however, that plants are often lost because they are given up as dead, whereas they are only taking a long rest. On May 1, on going through the alpines in the nurseries of Messrs. T. Kennedy and Co., Dumfries, along with Mr. Croall, who has charge there, the latter said he was afraid that Viola pedata, planted on a rockery in September, was dead. On inspection, however, we found it just pushing through the soil, and apparently quite vigorous. This note may save many a plant, which, if left alone, might appear in due course. This is such a charming Violet, with its prettily-cut foliage and handsome lavender or blue flowers, white in alba, and with purple upper petals in bicolor.

Dumfries. S. ARNOTT.

THE PERENNIAL CANDYTUFT.

THE perennial Candytuft is foremost among effective rock plants that flower from May onwards. When grown in a sunny position overhanging rocks, it is seen to advantage, for the patches of pure white flowers appear like drifts of snow in the distance. The perennial Candytuft is known botanically as Iberis sempervirens, and the variety, which differs but slightly from that species, illustrated on this page is known as garrexiana. For many weeks past these bold and free-flowering clumps have been a source of pleasure. This subject is both hardy and evergreen, and when once established will remain good for years. Young plants are easily raised from cuttings.

THE PERENNIAL CANDYTUFT DRAPING LARGE BOULDERS IN THE ROCK GARDEN.

COLOURED PLATE.

PLATE 1472.

ROSE DANAE.

THIS very pretty novelty belongs to a group, namely, the Hybrid Musk, that seems likely to become an important one in the near future. Although I do not know for certain, I assume Danäe originated from Trier, crossed probably with a yellow Polyantha. Certainly its raiser, the Rev. J. H. Pemberton, has succeeded in producing a very charming garden Rose, and it is to be distributed, I believe, by Messrs. Hobbies, Limited, in the autumn. The perpetual-flowering character of the Rose will give it an extra value, and its lovely yellow blooms will be greatly appreciated. I have had no opportunity so far of comparing the blooms of Danäe with a Rose already in commerce named Thermidor, but I believe there will prove to be a certain similarity in the flower, although Danäe is of greater vigour. With me Thermidor grows like a strong dwarf Polyantha, and it is very perpetual. I like it much, and intend to grow it largely as a big bedder. Of course, Danäe will be planted more as a free bush, just as we do Trier, and I expect it possesses the same delightful aromatic fragrance as the latter, which originated with Herr Peter Lambert. The Rev. J. H. Pemberton states that Danäe is good in autumn and mildew-proof. It received a silver-gilt medal from the National Rose Society in 1911, an award of merit from the Royal Horticultural Society in September, 1912, and a first-class diploma from the North of England Horticultural Society in August, 1912.

Messrs. Paul and Son have raised a very useful variety named Queen of the Musks, which will be welcomed for its fine bold effect in the garden. Adrian Reverchon hails from Trier, which is the German town where its raiser, Herr Peter Lambert, resides. It is a sort of perpetual-flowering Hiawatha of a climbing character. This should prove valuable, and we shall also be able to plant around it the new Papa Heurcray, a rather strong-growing dwarf perpetual Polyantha with large trusses of bloom after the style of Hiawatha. Geheimrat Dr. Mittweg is another of the Trier seedlings with a very free perpetual-flowering habit, and Schiller is yet another, having small, peach pink flowers.

It will thus be seen that the group is extending, and I for one welcome them, as they give us a race of Roses with a lovely distinctive perfume that reminds us in autumn of the June-time, when perhaps there are more of these distinctly-scented varieties in bloom. DANECROFT.

New Perpetual Flowering Rose Danæ.

Hudson & Kearns, Ltd., Printers, London, S.E.

REVIEW OF THE SPRING SHOW AT CHELSEA.

A GREAT and unqualified success best describes the magnificent spring show of the Royal Horticultural Society, which opened at the Chelsea Hospital Grounds on Tuesday last. Hitherto, as most of our readers are aware, this exhibition has been held in the gardens of the Inner Temple, on the Thames Embankment, and it was with considerable reluctance that the Council had, owing to the rapidly-increasing number of exhibits, to move to the more spacious grounds at Chelsea. That the move was fully justified the magnificent exhibition now under review fully proves. The number of exhibitors on the present occasion is nearly twice as many as the largest number at any Temple Show, and the exhibits may fairly be regarded as representing the highest and best forms of gardening. The Old English gardens and the rock gardens are in themselves beautiful features, and the interest taken in the former would lead us to believe that there is an increasing tendency to revert to this form of gardening in place of the more natural style that has for so long held sway. That formal gardening, as it was known in the sixties of the last century, will ever replace natural gardening we do not for one moment believe, nor would we wish it; but there is no gainsaying the fact that such gardens as those exhibited by Messrs. Wallace and Carter are quite in keeping with many old mansions. The arranging of all pot plants and cut flowers in one large tent is an excellent idea, but the gangways might well have been wider. Queen Alexandra, accompanied by Princess Victoria, visited the show on the opening day, and spent some time admiring the many beautiful flowers and gardens. In the pages that follow will be found a review of the principal exhibits, with illustrations of some of the most noteworthy. In the preparation of this special number we have been greatly assisted by various members of the Council; by the secretary, the Rev. W. Wilks; the superintendent of the show, Mr. S. T. Wright; Mr. Frank Reader and other officials, and to these we tender our best thanks. Without their help it would have been impossible to have placed before our readers an illustrated and comprehensive review of this magnificent show in so short a time.

QUEEN ALEXANDRA AT THE OPENING OF THE CHELSEA SHOW.

ROCK AND FORMAL GARDENS.

If in rock gardening the great International Show held last year at Chelsea was in the nature of an "eye-opener" to all interested in this rapidly-growing fascinating phase of gardening—unique, indeed, in the annals of horticulture—the rock gardens to which we to-day direct our readers' attention will play a good second. Not a few of them, indeed, are works of art, carefully arranged and planted with the choicest of alpine vegetation, and, withal, so endowed for the most part with the atmosphere of mountain plant-life that we might be pardoned for believing them to be a true bit of such scenery. Hence the object of their being is achieved; the teaching value is sound, which, after all, is the one great reason for holding such exhibitions at all. Our only regret is that they are so numerous and good that we are unable to deal with them all. They are arranged near the Embankment.

Messrs. Wallace and Co., Colchester, who led the way last year by raising the finest rock garden ever seen at an exhibition, have this year a fine piece of rockwork in conjunction with a sunk garden, wall garden and garden-house. The latter is remarkably well done, the old, stone-tiled roof affording much proof of true and thoughtful work. A fine stretch of water, or rock garden pool, and the paved ways with their complement of little things will appeal to all. Choice conifers and alpines abound in every direction, suitable colonies of plants appear near the water's edge, and anon elsewhere. The stone is particularly good and well chosen, and our readers are directed to examine it with care. Some three thousand square feet are devoted to it.

Mr. G. Reuthe, Keston, Kent, relies rather on the choiceness of the material he employs than on any elaborate piece of rockwork. On this occasion, however, he has a nice arrangement of the latter, and has arranged some pretty plant colonies thereon. Of these, Helichrysum trinervis is a fine plant and a good grower, Æthionema pulchellum is charming, while such as Pyxidanthera barbulata, Lewisias of sorts, Trilliums and Edraianthus serpyllifolius are all things to seek for and admire.

Mr. Clarence Elliott is near by, and has done the best piece of work we have seen from him. His colonising in some instances is admirable, and so fine a patch as Aquilegia Stuarti will need no finding; it is there, and will appeal by the great picture of blue and white it creates. It is in the highest degree superb, a worthy plant worthily treated. Next to this our readers should look for Saxifraga

PART OF THE BEAUTIFUL ROCK GARDEN SHOWN BY MR. J. WOOD, BOSTON SPA.

A izoon rosea; it is there also, delightfully arranged, and demonstrates rock garden grouping *par excellence*.

Messrs. R. Tucker and Sons, Oxford, are responsible for a quite small exhibit, and things to be looked for are Androsace arachnoidea, Anemone alpina, A. sulphurea, the pretty Stachys corsica (inimitable among carpeters) and Œnothera ovata.

Exactly opposite this, with, as we thought, an all too thin dividing line, is a rock garden from the Burton Hardy Plant Nursery, Christchurch, and here were noted many beautiful Primulas, not least of these being P. Lissadell Hybrid. Sedum pilosum, too, is most interesting, while Lewisia Cotyledon, Ramondias and Cistus purpureus are worth seeking.

Messrs. Piper and Sons, Barnes, have a much more elaborate rock and water garden, covering 3,000 square feet, and the work is well done. At or near the water's edge great groups of Trillium, Cypripedium, Sarracenia and Primulas may be seen, Funkias, too, forming handsome foliage groups. Good bits of colour are afforded by Primula cockburniana, Incarvillea grandiflora and Campanula Stevenii nana, a delightful carpeting pale blue Bellflower. Shrubs, flowering and otherwise, are on the banks and slopes, and add materially to the good effect.

Messrs. Carter, Raynes Park, are responsible for a clever piece of wall and formal gardening, the former deftly planted with very choice things. The one side—the main entrance we should say—is by a hammered iron gateway from the great avenue, and here at once visitors are in touch with terrace garden and fountain, with Columbines and Primulas in the shadier parts. By steps right and left the visitor gets to the lawn and the sumptuous borders of Azaleas, Rhododendrons, Primulas and other plants which lend their brilliance around. The whole is delightfully arranged, and is certainly one of the features which must not be missed.

The Guildford Hardy Plant Nursery have an admirable rock garden exhibit, and not a few of the choicest alpines. For example, no one should miss the rare assortment of alpine Erodiums; olympicum, supracanum and chrysanthum are some. None *can* miss Celmisia spectabilis or the mass of Incarvillea brevipes, which is a big rival to I. grandiflora. The finest bit of colour, however, comes from the brilliant Ourisia coccinea. The lovely patch of it is a show in itself.

Messrs. Whitelegg and Page, Chislehurst, near by, have a magnificent piece of work. Their new orange yellow Geum John Bradshaw is alone a gem, while Cotyledon spinosum, Wahlenbergia vincæflora and Primula cockburniana will appeal to all. Very fine in contrasting effect are the white Meadow Saxifrage, S. granulata plena, and the scarlet-flowered Habranthus pratensis.

Messrs. J. Cheal and Son's formal garden and rock garden are on the opposite side of the roadway, the rock garden being formed in a depression. It is full of interesting and showy subjects, and must be entered and examined to get even a glimpse of what it contains. Alpines, however, abound, while choice shrubs and other things play their part in the more formal work.

Mr. Maurice Prichard, Christchurch, has an elaborate rock garden in Purbeck limestone, though his choicer things go to make up a bit of moraine gardening which is not placed on the front-door steps. In other words, our readers must "walk in," and Pentstemon cæruleus, Lewisias of sorts, Silene Hookeri, Oxalis adenophylla and much more will be revealed.

Messrs. Barr and Sons, Covent Garden, have, right at the entrance to their rock garden, which is of 1,000 square feet, a fine subject in Aster Falconeri, with Cytisus Beanii (yellow) at its feet. Orchises, Primulas, Cypripediums and Rodgersias are either in the water or at its margin.

Quite on an elaborate scale will be found the rock and water garden arranged by Messrs. Pulham and Sons. It is admirably executed in mountain limestone and suitably planted in every part. Saxifraga peltata is notably good in flower, and colonies of Primulas may be seen in plenty.

If we say at once that the arrangement of mountain limestone, covering a space of 2,000 square feet, set up by Mr. J. Wood, Boston Spa, constituted the truest imitation of Nature of any rock garden in the whole show, it is to give our readers a finger-post to guide them. Magnificently weathered, designed to suit the most exacting landscape gardener or geologist, it is above reproach, the array of good plants it contains appearing as suitable garniture. True to Nature, it is, so far as it goes, the finest thing we have seen in this respect. There is great teaching value in it, and our readers must note accordingly.

Messrs. T. S. Ware, Limited, Feltham, have an excellent rock and water garden on a large scale. Sedum pilosum is very fine, also white and coloured Ramondias, Silene Hookeri, Cypripediums and others.

Messrs. William Cutbush and Sons, Highgate, display particularly fine groups of Lilies, Anemone sulphurea, Lewisia leeana, Incarvillea grandiflora, Primula pulverulenta and the lilac-flowered Daphne Genkwa. Lilium colchicum is very handsome and in fine array.

A NOBLE ARRANGEMENT OF ROCKWORK, WITH WATERFALL, IN MESSRS. PULHAM'S EXHIBIT.

Messrs. Backhouse and Sons, York, occupy 1,000 square feet, and with well-toned sandstone have arranged a fine piece of rock gardening. Ramondias and Haberleas are very beautiful on shady slopes. Anemone sulphurea is superb, and equally so Orchis foliosa. Quite a wealth of other good plants are to be seen, and some fine water effects also.

The Craven Hardy Plant Nursery, Clapham, Lancaster, will be found among those who rely on choice plants—in this case the choicest to associate with good rock gardening — but they are too numerous to mention in detail. We must, however name some—the inimitable Daphne rupestris, which we remember for nearly a dozen years in succession at the Temple; Ramondia Nataliæ alba (exquisitely beautiful), Campanula alpina, Primula glutinosa and Ranunculus parnassifolius. Of course, Mr. Farrer has got Edraianthus serpyllifolius major, and by the hundreds on this occasion. It is in its prime, too, and its trails of imperial purple are rich indeed.

Messrs. Bees, Limited, Liverpool, have some of the choicest new alpines in the show. These will be found in the large tent high up near the hospital end. Roscoea cautlioides (yellow), Pentstemon cæruleus (true), Primula secundiflorus a wine-coloured sikkimensis, Oxalis adenophylla, Dracocephalum bullatum, Celmisia spectabilis argentea and a large number of rare Primulas must be sought out. They exist nowhere else.

Mr. H. Hemsley, Crawley, has a table of interesting alpines and shrubs, Ourisia, Onosma, Cornus canadensis and Achillea Aizoon being good.

Mr. Reginald Prichard, West Moors, Wimborne, will also be found high up in the big tent revelling in the choicest of alpines, of which he appears a veritable purveyor. His well-flowered mats of Campanula Stevensii nana will never be forgotten if seen, nor the spreading carpets, 18 inches in diameter, of Helichrysum bellidioides (white flowered), which have never before appeared so fine. Dianthus Prichardii is a novelty and a gem. Edraianthus calycinus is a great rarity, and Linum capitatum is choice.

The Misses Hopkins, Shepperton-on-Thames, have pretty groups of alpines on rockwork, also under canvas, the group being rich in Primulas, together with Oxalis enneaphylla, Daphne Cneorum, alpine Phloxes and the like.

Messrs. Kent and Brydon, Darlington, have particularly good examples of Gentiana bavarica, also a variety of Cypripediums and Primulas in conjunction with showier things.

Messrs. Thomson and Charman, Bushey, Herts, have a most valuable plant in Lewisia columbianum. It is superbly flowered and the finest example of the species in the show. Geum Borisi, Campanula Stevensii nana, Viola corsica, and good Ramondias are worth looking for.

Mr. Stuart Maples, Stevenage, has a variety of alpines on table rockwork. We believe this exhibitor appears for the first time.

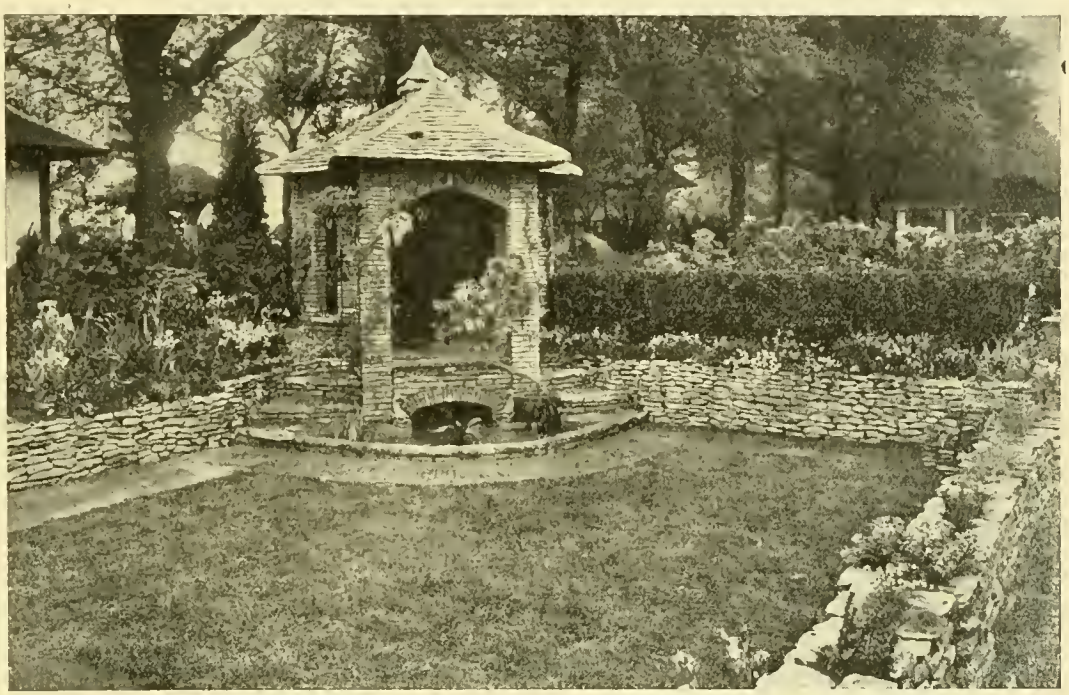
ROSES.

The sense of overcrowding so often manifest at the Temple Shows of the past is entirely absent at the delightful exhibition now on view at the Chelsea Gardens, and in no respect is this more manifest than in the grouping of the Roses. Each exhibitor has seized his opportunity and made the most of it, and the difficulty is to so appraise the merits of the individual groups as to place them in order of merit. As these notes are penned before the judges' awards have been made known, we should say that the judges cannot well pass over for premier place the noble group from Messrs. William Paul and Son of Waltham Cross. Mr. Miller, the able grower, has timed his plants to a day, with the result that we have here on view a most delightful and representative group, consisting very largely of the firm's own novelties. Huge pillars of the White Tausendschön are to be seen alongside the lovely and original Pink Tausendschön, and it cannot fail to catch on as one of the best ramblers hitherto produced. Another fine rambler is Sylvia (pure white), and it is perpetual-flowering and fragrant, most desirable attributes. The pillar and standard ramblers are most gorgeous in their varied tints, and consist of such fine things as Excelsa, American Pillar, Hiawatha, Coquina, Lady Gay, and the new Lady Blanche; this is a perfectly dead white, which will make it of greater value than the so-called white sports of Dorothy Perkins, which frequently have pinkish buds. Of the decorative and show Roses the following are splendid: Ophelia, Marcella, Margaret, Mrs. Charles Hunter, Lady Downe, Dora, Juliet, Portia, and Dr. William Gordon, all of the firm's production; and besides there are such notable kinds as Rayon d'Or, Sunburst, Mme. Lutaud, Souvenir du Gustave Prat, Mrs. Foley Hobbs, Commandant Felix Faure, Mrs. George Shawyer, Pharisäer, Entente Cordiale, Mrs. Aaron Ward, and Mme. Maurice de Luze.

Another notable group is that of Messrs. George Mount and Sons, and here we have perhaps the most perfect quality of the old standard sorts that it is possible to conceive. Surely, not even at Chelsea last year, were the Mrs. John Laings of such surpassing quality as now, and they are worth a journey to see them, even were there nothing else to see in this floral Paradise. Then, the Mrs. George Shawyers are grander than ever, and one is not surprised our American cousins are going crazy over this lovely Rose. Huge mounds of Lady Pirrie, Irish Elegance, Ulrich Brunner, Frau Karl Druschki, George C. Waud and Sunburst, edged by the delightful Flower of Fairfield in small pots, complete a very splendid group. This latter is the perpetual form of Crimson Rambler, and as a dwarf pot plant it far outshines all the red Polyanthas.

Messrs. Paul and Son, Cheshunt, have, as is their wont, a very fine group, in which standard weeping Roses are very prominent. We thought the group a little too crowded perhaps, but yet it contains some very choice things. The pretty dual weeper of Milky Way and Hiawatha may suit the taste of some individuals, but, generally, it is not admired. George C. Waud is very fine; so also are Freda, Magnolia, Lady A. Stanley, Laurent Carle, Souvenir de Gustave Prat, Mme. Segond Weber and Marquise de Sinety.

All Rose fanciers must see the fine group of novelties from the renowned raisers Messrs. Alex. Dickson and Sons of Newtownards. Messrs. Dickson have brought together one of the finest lot of novelties they have ever put up, and it cannot fail to be an attraction throughout the show. Queen Mary is a lovely gem and is difficult to describe. It has wonderful rainbow tints and such delicious fragrance. Verna McKay is a gem of the first water, with its amber tints and lovely elongated buds. Carine, so sweetly fragrant; Irish Fire-Flame, a copper-coloured Irish Elegance; Alexande



PART OF THE OLD ENGLISH GARDEN, SHOWING THE GARDEN-HOUSE, EXHIBITED BY MESSRS. R. WALLACE AND CO.

PART OF MESSRS. J. CARTER AND CO.'S OLD ENGLISH GARDEN.

Hill Gray, Duchess of Westminster, Lady Plymouth, Mrs. Wemyss Quin, a sort of deeper Rayon d'Or; Mrs. Cornwallis-West, Mrs. Campbell Hall, and Mrs. Forde are other fine blooms; while a box of Mrs. Foley Hobbs is one of the finest things in the whole show, one flower especially attracting the envy of every Rose exhibitor. There are two delightful crimson seedlings unnamed, and a grand lemon novelty named Mary Green, which we are likely to hear much of.

A superb group comes from Messrs. B. R. Cant and Sons of Colchester, in which we find splendid masses of St. Helena and Sallie, two really good things that everyone must have. Sunbeam is a lovely colour, reminding one of Mrs. A. R. Waddell; Elizabeth, Lady Reay and Rose du Barri are also fine. Silver Moon is a charming single rambler with huge flowers not unlike Simplicity, and one can imagine the beauty of such a Rose when on a pergola. Garisenda is a fine big-flowered rambler, and Aviateur Blériot a lovely orange-coloured wichuraiana of a most unique shade.

Messrs. Hobbies and Co. of Dereham have a novel group, consisting largely of a pergola well covered with ramblers. Pretty baskets add a charm to the group, and these are filled with some of the firm's own novelties, such as Dewdrop and Baby Elegance. Pink Pearl is a pretty rambler; so also is the Double White Rambler, a seedling of Crimson Rambler, raised by the Rev. J. H. Pemberton. Its delicate pink buds will be admired by many. Danäe is a lovely gem for the garden, and Miss F. Mitford, a semi-double seedling of Rosa Brunonis, will be a good addition to garden Roses.

Messrs. Cutbush and Son of Highgate are strong in Polyantha and rambler Roses, and a very charming group it is, which well displays the usefulness of the Polyanthas as decorative subjects. Practically all the best kinds are represented, not in single plants, but in fifties or more. Baby Tausendschön is lovely; Jeanne d'Arc and Yvonne Rabier, two fine whites; Mrs. Cutbush, Jessie, Ellen Poulsen, Perle d'Or and Mme. N. Levavasseur are all here; while delightful masses of Tausendschön, Dorothy Perkins, American Pillar and Newport Fairy complete a very fine group.

Messrs. George Beckwith and Sons of Hoddesdon have a group that we venture to say will be a centre of attraction, for it contains some fine masses of the sensational Rose Mme. Edouard Herriot, which, as all the world knows, is one of the latest introductions of M. Pernet-Ducher. Willowmere, the improved Lyons Rose, is also shown in great force, and it is certain to become a favourite; while a vase of Cissie Easlea portrays what a grand novelty we have in this variety of the Pernetiana class. A number of pots of Papa Hemeray is a pretty feature of this group. It is like a large flower of Hiawatha, only of dwarf growth and perpetual.

Messrs. Frank Cant and Co. have a sumptuous group of good things, including many fine show blooms. Lady Alice Stanley, Mrs. John Laing, Mrs. George Shawyer, Richmond, Mrs. D. Jardine, and Lady Roberts are very fine, and there are numerous kinds to be found in smaller quantities. The quality is excellent throughout this fine group.

Mr. Charles Turner of Slough has a very elegant group of standard weepers, with a groundwork of Polyanthas. Some grand examples of Coronation and Ethel display what two fine novelties we have here in ramblers, and so perfectly distinct.

Messrs. Low and Co. have a pretty group, chiefly in Bamboo stands, and the quality is excellent. Lady Hillingdon, Molly Sharman Crawford, Lady Pirrie, Sunburst, Joseph Hill and Mrs. George Shawyer are very lovely.

Mr. George Prince of Oxford has huge mounds of ramblers and Polyanthas, and if we miss his glorious Tea Roses, we must wait until the outdoor crop comes on for these. A grand mass of Hiawatha is most showy, and American Pillar, Blush Rambler, Lady Godiva and White Dorothy are also fine, together with Ellen Poulsen, Jeanne d'Arc and other good Polyanthas.

Messrs. Robichon of Orleans are showing a yellow seedling after the Rayon d'Or type, but not nearly so good and certainly not wanted.

Messrs. A. J. and C. Allen of Norwich have a small but attractive group of good things, and perhaps the Rayon d'Or here are as good as any in the show.

Messrs. R. J. Barnes and Son of Malvern have a small collection of very good flowers.

Mr. Walter Easlea of Danecroft Rosery, Eastwood, Leigh-on-Sea, has a very pretty group of his new Polyantha Rose Susie, a charming peach pink flower of delightful form. It will certainly prove a worthy addition to this popular class.

Outside, in the grounds, many of the exhibitors of sundries are freely employing Rambler Roses, perhaps the best exhibit being that of Messrs. William Wood and Son. The ramblers here show up grandly against the pergola columns, and cannot fail to give a stimulus to this class of plant, if any were required, and we shall all welcome the day when raisers produce some really perpetual-flowering forms that are equal in every respect to the superb varieties now in commerce which are, unfortunately, summer-flowering only, or at least the majority of them. We can safely assert that, were there nothing but Roses at this grand show, they would be well worth the journey to see, and our hope is that the exhibition will prove a huge success, for probably no finer show of mainly British productions has ever been placed before the public.

STOVE AND GREENHOUSE PLANTS.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibit a splendid group, consisting for the main part of stove foliage plants, lit up by the bright tints of the Crotons and Caladiums. A choice collection of flowering subjects is also associated therewith, prominent among them being Kalanchoë flammea, Anthuriums in variety, and an extremely choice selection of Orchids. Of the foliage plants especial mention may be made of Croton Dayspring, F. Sander, Golden Ring and Baron A. de Rothschild. Two particularly striking subjects are Cyanophyllum magnificum and Coccoloba pubescens, this last having large, almost round leaves of a firm, leathery texture. In another place Messrs. Veitch are showing a charming selection of greenhouse flowering plants, notably Cinerarias in great variety, Gloxinias, Streptocarpus, Calceolaria Clibranii, Streptosolen Jamesonii and Elæocarpus reticulatus, which they grow well. There is a fine and representative group of their strain of Hippeastrums, for which they are justly famous, and disposed above these are a number of cordon-trained plants of Fuchsias, which serve to show the suitability of these plants for training to the roof of a greenhouse.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, make a very imposing display of different flowering subjects raised from seed. Against one side of the tent they have huge hemispherical groups of Calceolarias, Cineraria stellata, Schizanthus, Begonias, with Petunias, Gloxinias, hybrid Impatiens, Salvias and others.

Messrs. Sutton and Sons of Reading have a very fine exhibit, the plants composing it being arranged in several beds. Particularly noticeable are the Reading strain of Cineraria stellata, as well as a pleasing variety known as Reading Gem. A bed of Schizanthus includes the finest forms in the entire genus, while all that can be said of the Nemesias, Stocks, Begonias, Primula obconica and Gloxinias is that they all well uphold the great reputation that the firm enjoys. The central figure of their group is a mass of Clarkias, among which the variety Firefly is in its way unsurpassed

Messrs. James Carter and Co. of Holborn and Raynes Park also show a group of flowering plants that can readily be raised from seed. Their principal feature is a magnificent display of Cinerarias, though the Gloxinias and Stocks are also very fine. The beautiful rich green of the turf in which the flowers are set serves to enhance their beauty. This same remark also applies to Messrs. Sutton's exhibit.

A large and varied collection of flowering plants comes from Messrs. Stuart Low and Co. of Bush Hill Park, Enfield. Included among them are many Heaths, Boronias, Aphelexis and other hard-wooded plants, while towering above them are tall plants of Acacia pulchella and standard specimens of the Bottle-Brush Flower, Callistemon salignus, better known as Metrosideros floribunda. Other notable features of Messrs. Low's exhibit are some splendid blue Hydrangeas, Gerbera hybrids, the distinct and pleasing Araucaria Silver Star, and Leptospermum scoparium Nichollii, which was given a first-class certificate last year at the "International."

Messrs. William Cutbush and Sons of Highgate also show a varied group, consisting of hardy Azaleas and Rhododendrons, with a great number of greenhouse flowering plants. The dominant feature of this exhibit is the collection of Hydrangeas, of which many varieties are shown, including some of the latest kinds. One bearing the outrageously long name of Générale Vicomtesse de Vibraye is remarkable from the fact that, though naturally of a bright rose colour, it acquires a more decided blue tint than any other Hydrangea. Messrs. Cutbush have a preparation of their own, known as "Azure," for turning Hydrangeas blue, and the condition of those shown says much for its effectiveness.

Messrs. Charles Turner and Sons of Slough show some Indian Azaleas trained in the strictly pyramidal manner that was at one time so popular. They are interesting as showing the way in which these plants were in the olden days largely grown. Arranged with some bush plants, Malmaison Carnations and Ferns, a very pretty effect is produced.

Messrs. John Peed and Sons, Roupell Park Nurseries, Streatham, show a fine collection of very large specimens of Caladiums. Prominent among them are Triomphe de Comte, bright red; Candidum, white; King George, rose, freckled red; Diamantina, white, green and red; and John Peed, rich red. Besides the Caladiums, Messrs. Peed contribute a large and representative group of their noted strain of Streptocarpus.

Scented-leaved Pelargoniums are certainly making great headway in popular favour. Miss Troyte Bullock, North Coker House, Yeovil, Somerset, has a collection of no fewer than 140 distinct varieties, a fact of which she may justly feel proud.

From Aldenham House Gardens comes another fine collection, which, though more limited in numbers, makes an imposing show, owing to the plants being all good-sized bushes in pots 7 inches or 8 inches in diameter. In this collection some seventy or eighty varieties are shown.

Rolls Hoare, Esq., West Grinstead Park, Sussex, also contributes a good collection of this class of Pelargoniums, about a hundred being represented among them. In all the exhibits the bulk of the plants are in flower.

Pelargoniums of the Zonal and Ivy-leaved sections are shown in great variety by Mr. H. J. Jones, Limited, Hither Green Nurseries, Lewisham. The plants shown are good examples of culture, and a choice selection might easily be made from those shown.

As usual, Messrs. Godfrey and Sons, Exmouth, are staging a large number of decorative Pelargoniums, which they grow so well. The variety among them is great, and their dwarf habit and profusion of flowering are all that can be desired. Numerous other plants are shown by this Exmouth firm, notably a beautiful salmon pink bedding Pelargonium, Duchess of Cornwall, and the New Zealand Veronica hulkeana, whose lavender-coloured flowers are borne in great profusion.

A unique exhibit is that from Mr. Bruce, The Nurseries, Chorlton-cum-Hardy, Manchester. It consists of a group of insectivorous plants, mainly consisting of Sarracenias, though there are others. One pan of Dionæa muscipula is very striking. Many of the Sarracenias are splendid examples, perhaps the most striking of all being S. Willmottæ, a hybrid kind. Lightness is imparted to this group by a free use of Palms and Eulalias. A charming little creeping melastomaceous plant, Heeria elegans, with carmine red flowers, is freely represented in this group.

Mr. L. R. Russell of Richmond has a collection of choice Caladiums shown as small plants, arranged several together in large pans. In this way, looked at from above, they are most attractive. The new Flora Russell, a crimson-leaved variety, is especially noteworthy. Associated with the Caladiums are other choice stove plants, particularly Marantas, Alocasias and several examples of Nidularium Meyendorfii, remarkable for the brilliant colour of the central leaves.

The pigmy trees from Messrs. Barr and Sons are, as usual, much admired by those on the look-out for something away from the common. Though many of them are hardy, in their pigmy forms they need the protection of a greenhouse, or, at all events, a situation where they are protected from harsh and drying winds.

Messrs. Blackmore and Langdon, Twerton Hill Nurseries, Bath, have an exhibit that well upholds their world-wide reputation for tuberous-rooted Begonias. When so many beautiful kinds are shown, it is difficult to make a selection, but the following cannot be passed over: Princess Victoria Louise, which was last year given an award of merit, pale salmon pink; Duchess of Cornwall, dark crimson; Rose Queen, rich rose; W. Marshall, scarlet; and Mrs. Thornton, white. The sturdy growth and erect flowers of the recent kinds show quite a wide departure from the tuberous varieties of old. Besides these, Messrs. Blackmore and Langdon are showing a new basket variety, Mrs. Bowers, whose blossoms are of a delightful shade of reddish salmon. It will prove a desirable addition to this valuable class. Two semperflorens hybrids, Carmen and Pink Beauty, are doubtless destined to be soon much better known.

Messrs. Thomas S. Ware, Limited, Feltham, have long been identified with the improvements in the tuberous Begonia, and their present exhibit is one of the best. It mainly consists of double-flowered varieties, with blooms as perfect as one may desire. Among the best are Countess Cadogan, orange; Mrs. Justice Hodges, cream, red picotee edge; Lady Ebury, deep rose; Captain Lafone, pink, much crisped; and W. G. Valentine, scarlet. Lady Cromer, one of the finest of the tuberous-rooted Begonias ever raised, and for which we are indebted to Messrs. Ware, is, as might be expected, very finely shown in their group.

Messrs. Robert Veitch and Son, Exeter, show a pretty and interesting group of Calceolarias, all raised by them. Prominent in this exhibit is the pretty cream-coloured, vigorous-growing C. Veitchii, which was given an award of merit last year at the "International."

A fine lot of Calceolarias of the herbaceous section is contributed by the Rev. H. Buckston, Sutton Hall, Derby, the flowers being particularly good and the colours well varied.

From Mrs. V. A. Litkie, Clarefield, Pinkneys Green, Maidenhead, comes a noble circular group of Calceolarias. The centre consists of large plants of C. Clibranii or protusa, and around the margin are beautiful specimens of members of the herbaceous section. Occupying the intermediate space are a number of crosses between the herbaceous kinds and C. Clibranii. These are in habit, size and colour of the flowers about midway between their parents, and are a decidedly promising lot.

Mr. Charles Turner, Slough, contributes a small but interesting group of Pelargoniums, among them being representatives of the show, decorative and fancy classes. These last were at one time extremely popular, but are now very rarely seen, their lack

A PORTION OF THE ROSE GROUP SHOWN BY MESSRS. STUART LOW AND CO.

of size being against them, according to present-day ideas.

From Mr. Victor Slade, Taunton, Somerset, comes a quantity of cut blooms of Zonal Pelargoniums, consisting of both single and double kinds. A good and representative collection.

In a group, mainly consisting of Carnations, shown by J. D. Webster, Chichester, is a magnificent lot of cut flowers of Richardia Pentlandii, which shows that their cultural requirements are well understood.

Messrs. H. Cannell and Sons, Swanley, Kent, fill one of the tables with a selection of choice flowering subjects. Prominent among them are Calceolaria Clibranii (very much in evidence at the present exhibition), Schizanthus (a very fine strain), Pelargoniums of different sorts, but mainly of the decorative section, and herbaceous Calceolarias, the whole being finished off with a fringe of loose-growing Lobelias, which serve to prevent any bareness at the front. Good plants of Grevillea robusta also serve to take off any stiffness or formality.

From Messrs. Kent and Brydon, Darlington, comes a splendid bank of Lily of the Valley, both the foliage and the flowers being equally fine.

Aug. Ph. Brandt, Esq., Bletchingley Castle, Surrey, contributes a fine bank of decorative Pelargoniums, the selection being good, and the condition of the plants leaves nothing to be desired.

A miscellaneous collection of plants shown by Mr. G. Reuthe, Keston, Kent, is made up of a great variety of different subjects, some being hardy shrubs and many of a half-hardy character. Prominent in the exhibit are a great many different Rhododendrons, both Himalayan species and various garden hybrids.

The collection of Hippeastrums or Amaryllis set up by Messrs. R. P. Ker and Sons, Aigburth Nurseries, Liverpool, are representative of their well-known strain. Prominent in the exhibit are the following varieties: Magnificent (chocolate red, shading to white at the edges), Lord Roberts (orange scarlet, light centre), Magenta Queen (bright carmine rose), and Rosy May (deep reddish rose, shading to white at the edge).

Messrs. H. B. May and Sons of Edmonton are showing a varied collection of flowering plants which they do so well. Among them are Pelargoniums (including that scented-leaved variety Clorinda), Salvias, Lobelias, Heliotrope, &c. Foliage plants include a collection of Coleus and of tricolor-leaved Pelargoniums, which last are very rarely seen nowadays. Standards, too, now so popular, are represented by Salvias, Lemon-scented Verbena, Fuchsias and Pelargoniums.

FERNS.

The exhibit of Ferns staged by Messrs. H. B. May and Sons of Edmonton is well worthy of their great reputation, fully 1,000 square feet being filled with choice examples, every one of which shows a very high state of culture. The bulk of the exhibit is made up of large specimens such as one rarely sees, and these of many of the choicest kinds. Of those that may be especially noted are Davallias (quite a representative collection), Stag's-horn Ferns (of which the same may be said), Polypodium Knightæ, Polypodium Vidgenii (which was given an award of merit a year ago) and Polypodium glaucum crispum (remarkable for its beautiful glaucous tint). There is a fine group of that mossiest of all the mossy varieties of Nephrolepis exaltata, namely, Willmottæ, which was last year given a first-class certificate. A plant of the interesting Nephrolepis Marshallii compacta, which before the advent of Willmottæ was regarded as the extreme form, is shown for the purpose of comparison. The fine plants of Lygodium also form a notable feature in Messrs. May's collection. The said group is edged with a representative selection of the finest hardy Ferns, a class whose culture is now largely taken up at Edmonton. Not only is such an exhibit of great beauty in itself, but the masses of greenery serve as a foil to the bright-coloured flowers in close proximity.

ASTER PURDOMII, A NEW DWARF SPECIES FROM NORTHERN CHINA. SHOWN BY MESSRS. J. VEITCH AND SONS.

Messrs. Hill of Edmonton, whose fame as Fern-growers is widespread, are showing a steep bank of very beautiful forms, disposed in an extremely pleasing manner. The Gleichenias in this collection are very striking, as also are the Davallias, Platyceriums, Polypodium Knightæ, Polypodium glaucum crispum and Polypodium Schneideri.

Mr. W. A. Manda, New Jersey and St. Albans, make a feature of his beautiful new Fern Polypodium mandaianum, which made its first appearance at the "International," and was given a first-class certificate later on at Holland Park. It is in every way an ideal decorative Fern for large specimens, the spreading fronds being of a firm, leathery texture that enables them to resist draughts well.

Mr. Amos Perry of Enfield contributes a fine group of hardy Ferns, many of which for beauty vie with the choicest exotic kinds. The beautiful leafage of all those shown forms a very striking feature. The different varieties of Athyrium Felix-fœmina, Polystichum angulare and Osmunda regalis are particularly fine.

ORCHIDS.

It is to the Orchids that many visitors make their way on entering the exhibition gates. There is a wonderful display to be seen, for leading growers from all parts of the country are showing, and the quality of the flowers is better than ever. High banks of gorgeous Orchids create colour-schemes of bewildering beauty. Among the newer varieties Odontiodas are well to the fore, while Miltonias, which eight or ten years ago were thought little of, are now favourites among the Orchid-loving public.

A collection of Cattleya hybrids, in perfect condition, comes from Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt, Gloucestershire. Large pans of the lovely Cattleya Skinneri and innumerable Brasso - Cattleyas, such as digbyano-Mossiæ and Mme. Hye, with broad, fimbriated lips, are among the features of the gorgeous display. We have learnt to expect great things from Westonbirt, and there is no cause for disappointment. Every plant is a picture, and the whole of this extensive group does credit to Mr. Alexander, the ardent and successful cultivator.

Messrs. Charlesworth and Co., Hayward's Heath, have quite surpassed themselves in the magnificent group they are showing. Miltonias form a strong feature, and the rise in popularity of these flowers is due in a great measure to the efforts of this enterprising firm. Odontiodas are exceptionally fine, notably Queen Mary and Enchantress—two of the very best in the whole exhibition. A wide range of Cattleya hybrids, together with Odontoglossums and Cymbidiums, are prominent in this truly grand and in every way creditable display.

Messrs. Mansell and Hatcher, Rawdon, Yorks, have an extensive collection, in which most Orchids in season are represented. The Cattleya hybrids are worthy of special note, while the gems among Miltonias, Odontoglossums and Odontiodas arouse the admiration of all visitors.

Messrs. Stuart Low and Co. have a brilliant display, including Cattleyas, Dendrobiums, Phalænopsids and Oncidiums in all colours conceivable. The centre of this brilliant group is mainly occupied by the highly-attractive Renanthera imschootiana, of orange scarlet hue.

Messrs. J. and A. McBean of Cooksbridge are showing Odontoglossum crispum in remarkably good form, also Cattleya hybrids in exquisite colours, interspersed with a variety of Cymbidiums in long, arching sprays. About sixty plants of Miltonias, including the bright Augusta, are shown in this group.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, is showing Cattleyas, Odontoglossums and Miltonias in great variety. Among his best plants are Lælio-Cattleya dominiana, a wonderful variety of L.-C. G. S. Ball and two albino Cattleyas, C. Skinneri alba and C. intermedia alba.

Messrs. J. Cypher and Sons, Cheltenham, are represented by a magnificent bank of such Orchids as Miltonia vexillaria in variety, Phalænopsis rimestadiana, Lælia Latona, Renanthera imschootiana and Dendrobium Thwaitesæ. A little batch of the orange scarlet Masdevallia grandiflora is a showy feature of the bright and interesting display.

Messrs. Sander and Sons, St. Albans, have quite excelled themselves with their intensely interesting and well-staged group, in which Odontoglossums, choice Cattleyas, Phalænopsids, Cymbidiums and Miltonias are mingled one with the other. Among the gems of the collection are Odontioda Lælia Sander, O. Roger Sander, and Brasso-Cattleya vilmoriniana Etna. The choice collection of Odontiodas is the outstanding feature of this group.

From Sir Jeremiah Colman, Bart., Gatton Park, Surrey, comes an admirable display, in which fine spikes of Odontoglossum crispum Mary Colman and other varieties are mingled with the orange-toned Odontiodas, such as Bradshawiæ and Gatton Queen. The effect is charming. A fine lot of Miltonias and Cattleyas are included in this group.

In Messrs. Hassall and Co.'s group from Southgate may be seen an admirable collection of Miltonias, Odontoglossums and a perfect specimen plant of the albino Cattleya Skinneri alba. Lælio-Cattleya Phœbe is likewise well shown.

Mr. Sidney W. Flory, Twickenham, sends Cattleyas and Odontoglossums in great variety. Trichopilia hennesiana, with ivory white flowers, and Cochlioda noetzliana, with vivid orange scarlet inflorescences, are two of the gems among the species shown.

Messrs. Armstrong and Brown, Tunbridge Wells have an extensive and highly creditable group, comprising Miltonias, Cattleyas, Cypripediums, Odontiodas and Phalænopsis. Cœlogyne dayana, with pendulous chains of brownish flowers, is conspicuous in the background. Odontioda Chanticleer and Miltonia vexillaria G. D. Owen are two gems not to be overlooked.

Odontoglossum crispum and Cattleya Mossiæ in variety are the features of the group sent by Mr. C. F. Waters, Balcombe, Sussex. Large batches of Miltonia vexillaria are likewise included in this group.

SWEET PEAS.

The season of the year is not one at which it can reasonably be anticipated that Sweet Peas will be shown in that profusion and perfection which characterise them in the prime of summer. The flowers are from plants grown under glass; and from the fact that such protection is afforded it may be thought that the weather would be controlled, but such can never be the case. The present spring has undoubtedly been unpropitious, and it is therefore the more pleasing to be able to place on record the fact that many blooms of wonderful quality—quality spelling richness and purity of colour, excellence of substance, refinement of form, graceful placing on the stem and ample length of stalk—is to be seen in the Royal Hospital Grounds at Chelsea. Individual exhibitors are less numerous than might have been expected, but the conspicuous absentees were away under the compulsion of the weather, over which, happily, none of us has the least control. They were compelled to withdraw, and their absence can only be described as a loss to the show, magnificent and varied as the display is as a whole.

Messrs. Dobbie and Co., Edinburgh, did not exhibit Sweet Peas from North of the Border, but from the metropolitan county of Essex. It is impossible adequately to praise them without being accused of gross exaggeration, so it shall suffice to say that they would have done credit to an exhibition in any centre of the British Isles in July. Quality and colour are emphasised by excellent arrangement. Along the back are plants 8 feet high in 6-inch pots, and in the foreground are superb bunches of many varieties. Of the new ones, personal taste will decide which is the most beautiful, and probably the most votes will go to Mrs. McIlwrick, of which the standard is rose and the wings a peculiar shade of blue. A refined beauty is Blue Picotee, with the finest thread of colour round the white; while King White will probably reign for long. Among the other beauties are Dobbie's Scarlet, Dobbie's Cream, Dobbie's Lavender George Herbert, with Ruby Palmer, Melba, Thomas Stevenson, Sunproof Crimson, Lady Miller, May Campbell, Mrs. Cuthbertson, Elfrida Pearson, Decorator, Brunette, Inspector, Marks Tey, Elsie Herbert, Rosabelle, New Marquis and Charles Foster.

A PORTION OF MESSRS. DOBBIE AND CO.'S SWEET PEA EXHIBIT.

Robert Sydenham, Limited, Tenby Street, Birmingham, appear to have a rule in respect to their exhibits, of which the substance is that quantity must be subservient to quality. In the present instance the group of Sweet Peas is not extensive, but it has the merit of cheerfulness of colour and attractiveness of arrangement. The flowers are not conspicuous for size, neither are they carried on stems 2 feet or more in length, but they lose nothing on these scores. The most attractive varieties are Hercules, Barbara, Edith Taylor, Princess Mary, R. F. Felton, Maud Holmes, Walter P. Wright, Elfrida Pearson, Apple Blossom Spencer and Etta Dyke.

Essex is to the fore in a small group from Messrs. E. W. King and Co., Coggeshall, and the feature that most promptly strikes one is the quality of the varieties to which the prefix of Anglian is attached. There are Crimson, Pink, Blue, Orange and Fairy, not to mention Royalty, of which no mere man could reasonably be expected to describe the colour with even approximate correctness. Another beauty is Mrs. Reginald Hill, a warm lavender, while Princess Mary and Electric are both charming colours.

Messrs. Sutton and Sons, Reading, have a varied and delightful exhibit, and among the most beautiful features of which it is comprised is the collection of Sweet Peas—brilliant in colour, perfect in size, substance and form, and artistically displayed. Especially fine are Avalanche, Royal Rose, Helen Grosvenor, Queen of Norway and Doris Usher. Little, if at all, inferior are Mrs. Heslington, Constance Oliver, Mrs. W. J. Unwin, Charles Foster and Dragonfly, which is peculiar in colour, the standard being very pale buff and the wings rose veined.

The only other exhibitor of Sweet Peas is Miss Hemus, Upton-on-Severn, who has a small exhibit.

HERBACEOUS & BULBOUS PLANTS.

By far the most beautiful, as it is also the most imposing and sumptuous of groups occurring under this head is that of Lilies arranged by Messrs. Wallace and Co. of Colchester, which will be found in the large tent. It is rich in Lilies and teems with the best of them, and, moreover, they will be found in admirable condition, despite the fact that they have been forced into bloom. The more worthy of these are Hansonii (orange), Brownii, monadelphum (szovitzianum), the rare Trumpet Lily, L. myriophyllum, and the inimitable L. Krameri. These latter are really admirable,

and should be seen by all. Dalmaticum, Dalhansonii and tenuifolium Golden Gleam are other good things to be found in this group, the accompaniments being Astilbes, Irises, Gladioli and the like.

Mr. Amos Perry has brought from Enfield a superb lot of things, and quite in the forefront will be found a rare grouping of Tree Pæonies, the finest of which is Louise Monchelet, a delightful pink of satiny hue. Irises of many sections are here, too, and such as I. Korolkowii purpurea, I. vaga and I. tenax will be noted at once. Two representatives of the Reglio-cyclus group are worth noting, I. Hesperia and I. Hecate. There are many other fine things to be seen.

Messrs. G. and A. Clark, Limited, Dover, display a fine lot of Astilbe Davidii, Pyrethrums, Primulas, Irises, Verbascums, Eremuri and other things of the showier class, good border plants withal.

In the group from Messrs. Jackman and Sons, Woking, there will be found many showy and useful subjects, Delphiniums, Pæonies, Verbascums, Astilbes, Lilies in variety, Cypripediums of sorts, the pretty Iris cristata and a fine lot of Oxalis enneaphylla.

The group from Mr. James Box, Lindfield, Sussex, will be found high up in the large tent, adjacent to a large collection of Ferns. It contains many excellent border and choice rock plants. The background of Bamboos is faced with Anchusa Opal and the rich blue of the Delphinium Lamartine, which is in capital form. Of choice Primulas there will be seen bulleyana, Lissadell hybrids, beesiana and luteola. Incarvillea brevipes and I. grandiflora are notably good, and should be noted by our readers. The white-flowered Delphinium Progression—a novelty withal—is also worth noting. Anemone coronaria Rouge Ponceau is of wondrous scarlet colour.

Messrs. James Veitch and Sons, Limited, Chelsea, are showing Eremuri, a fine lot of Pentstemon Menziesi, together with Geum Mrs. Bradshaw, Pyrethrums, Irises, Lilies and the new Aster Purdomii (see illustration page 260).

Messrs. Artindale and Son, Sheffield, have some excellent Tree Pæonies, early Gladiolus, Megaseas and a gay gathering of Violas in many varieties.

In the group from Mr. W. H. Rogers, Southampton, some fine Primulas will be found, also the brilliant scarlet-flowered Ourisia coccinea and the inimitable Omphalodes Luciliæ. Corydalis nobilis and the Delphiniums will not, of course, be passed by.

Messrs. Storrie and Storrie have one of their fine exhibits of Auriculas and Polyanthuses, the vigour and floriferousness of which will not fail to be admired. The strains of both, too, are excellent, and Scotland's air seems to imbue these things with new life.

Messrs. Whitelegg and Page, Chislehurst, have fine baskets of Primula Veitchii, Habranthus pratensis, Aubrietias, with a delightful lot of Primula pulverulenta and P. cockburniana.

The very fine groups—for there are two—of herbaceous Phloxes from Messrs. Gunn and Sons, Birmingham, are among the brightest features of the great tent. Messrs. Gunn are excellent cultivators of these plants, and they now show them very finely. Elizabeth Campbell (scarlet), Duchess of Wellington (mauve), Le Mahdi, Ellen Willmott (mauve), Frau Antonie Buchner (purest white) and Countess of Ilchester (orange scarlet) will be found among the most distinct. Viola Moseley Perfection is a great thing in yellow-flowered varieties.

Quite in the opening of the large tent from the Embankment side will be found the sumptuous grouping of Delphiniums, Tree Pæonies, Pyrethrums, Gaillardias and yellow Lupines from Messrs. Kelway, Langport. We have frequently observed that it is better to display a few plants in good condition than to show a whole army of things, meaningless, dowdy in colour, and of no significance. Messrs. Kelway are doing the former, the result being a very fine display.

Mr. Frank Lilley, Guernsey, has one of those attractive groups which at this early season of the year only this favoured island can show. Sparaxis, Irises, Camassias and other things will be found.

Messrs. Reamshottom and Co., Geashill, King's County, have one of their fine displays of St. Brigid Anemones, and the great variety of colour, cheapness and easiness of culture should tempt thousands to grow these showy flowers.

Mr. W. Lawrenson, Yarm-on-Tees, is staging on a table space in the big tent a variety of hybrid Primulas; but from either the day, the sunlessness or covering canvas, we failed to see any advance upon well-known kinds.

From Dr. Macwatt, Morelands, Duns, N.B., may be seen basket groups of many Primulas, the majority interesting rather to the botanist than to the gardener. Duns, we had hoped, would follow Edinburgh's lead and demonstrate to residents in southern gardens how much elevation, northerliness and coolness are to these plants. Dr. Macwatt's exhibits do not demonstrate these things. The inimitable P. glutinosa is better from Mr. Farrer; the free-flowering P. Veitchii is superior everywhere. Hence we enquire, after all, Is it cultural skill, and not position or locality?

Mr. G. Underwood, Leicester, also shows Violas.

The Wargrave Plant Farm, Twyford, have a small rockery exhibit under canvas, and at least two things should attract our readers thereto. They are Cypripedium montanum and Æthionema schistosum, a pretty, pink-flowered plant for rockwork or alpine wall. Ourisia coccinea and Gentiana verna will also be found very charming.

Baker's, Wolverhampton, will be found to have a rather extensive grouping of Primulas, Meconopsis cambrica fl.-pl., Cypripedium spectabile and Incarvillea grandiflora. The plants will be seen in groups suggestive of what may be done in the garden.

VIOLAS AND PANSIES.

A very bright and attractive display of Violas and Violettas is shown by Mr. Howard H. Crane, Woodview, Highgate, N., embracing many of the leading bedding sorts, to which this grower especially devotes his attention. Among other good Violas are May, Linggi, Royal Sovereign, Mrs. E. A. Cade, Constance, Leonora and Mrs. B. Eric Smith (all noteworthy yellow sorts), Admiral of the Blue and Royal Blue (rich blue varieties), and others of various colours are Nellie Chapman, Lark, Nancy (velvety), Ruth Wilks, Nellie Harston, C. B. Murray, Mrs. Chichester, Swan and Maggie Mott. Pretty Violettas are Eileen, Chloris, Yellowhammer, Butterfly, Cynthia and Rock Yellow.

Messrs. Dobbie and Co., Edinburgh, have a number of Pansies and Violas growing in pans, illustrating their true character in this way. Good sorts of Violas are Jubilee, Lord Shaw, Royal Sovereign, Snowflake, King Cup and Blue Cloud. The fancy Pansies are fine, some being very striking. Noteworthy varieties are Unicorn, Sunburst, Emma Bateman, Mrs. C. Kay, John Picken and Attraction. Viola Moseley Perfection is shown as growing plants lifted and placed in baskets. This is a wonderful yellow Viola. Other sorts are Admiral of the Blue and Agnes Kay. There is also a beautiful lot of Viola cornuta purpurea and V. gracilis. This last series is exhibited by Messrs. Gunn and Sons, Olton, Warwickshire.

John Forbes, Hawick, Limited, in addition to several other things, has a capital display of Violas and Pansies. Exhibition and bedding Violas are represented by the following, among others; Campbell Bannerman, Mrs. D. Davidson, W. H. Woodgate, Mary Burnie, William Daniels, John Forbes, Glencoe, James Pilling, Blanche and Purity.

Mr. George Underwood, Leicester, has a small group of the more popular Violas, showing three blooms each of a number of good sorts. Walter Welsh (rich yellow), John Smellie, Dusky Monarch, Gladys Finlay, A. S. Frater, Nettie Macfadyen, Admiral of the Blues and Henry Hamilton are conspicuous. Viola cornuta purpurea is shown in glass vases on three semi-circular arrangements in front of the exhibit.

A new exhibitor in the person of Mr. W. R. Tranmer, Alma Nurseries, Cottingham, Hull, stages Violas in sprays with appropriate foliage. Here are to be seen well-known sorts in fresh condition, such as G. C. Murray, Mrs. Chichester, Moseley Perfection, Maggie Mott, White Swan and Archie Grant; also Viola cornuta purpurea, V. c. alba and V. c. variety Fragrance Queen.

Mr. G. W. Miller, Wisbech, stages with his hardy flowers a number of Violas; Royal Blue, Moseley Perfection, Seagull and Bridal Morn are their names. He has also Viola cornuta and its varieties, which are well shown.

Messrs. Carter Page and Co., London Wall, E.C., in addition to Dahlias and other things, have an interesting collection of Violas in fresh and clean condition, set up in pans of sand. Mrs. C. F. Gordon, Maggie Mott, Kathleen Gordon, Mrs. Airdrie, Kitty Bell, Moseley Perfection, Bronze Kintore, Swan and Archie Grant are some of the more distinct kinds.

Messrs. W. Artindale and Son, Sheffield, Yorks, have edged their group of hardy flowers with a number of Violas planted out in Cocoa-nut fibre in irregular colonies. The more striking sorts are Margaret Wood, J. H. Watson, Kathleen, Minnie J. Ollar, Admiral of the Blue, A. S. Frater, Countess of Eglinton and Gladys Finlay, and with Viola cornuta purpurea makes a nice finish.

Messrs. Gunn and Sons have a pretty circular group of Viola cornuta purpurea, set up in tubes in a cut state, making a mass, and contrasting with several Saxifrages in the centre of the group. This is a very simple but charming little display. Masses of Violas form an irregular and pretty edging to Messrs. Ware's group of hardy flowers. Here are massed in colours such sorts as Royal Sovereign, Maggie Mott, a purple, white, and a blotched blue variety.

Pans of Violas form a ring round two groups of plants shown by Messrs. R. H. Bath, Limited, Wisbech. In this way the plants are effectively shown, the public by these means obtaining a good idea of the habit of the respective varieties. Among other good things are True Blue, Seagull, Molly Pope, Primrose Dame, Councillor Waters, Ethel Baxter, Royal Blue and Amy Barr. There are also several pans of fancy Pansies.

CARNATIONS AND PINKS.

Truly magnificent aptly describes the wonderful exhibit of Carnations set up by Mr. C. Engelmann, Saffron Walden, Essex. Tall pillars, artistically arranged with blooms of Lady Northcliffe, Rosa, Sunstar, White Enchantress and Elektra occupy the centre of the group, and out of the groundwork of smaller vases there rise stately vases of such sorts as the rich crimson Carola, White Mrs. Lawson, Beacon, Triumph, Benora, White Wonder, My Rose and Pioneer, among others. Edged with well-grown Ferns the effect is distinctly beautiful, and does this exhibitor great credit.

A circular group on a raised platform is occupied with a dainty group of Carnations by Messrs. Stuart Low and Co., Bush Hill Park, Middlesex. Malmaison, Mrs. C. F. Raphael, Princess of Wales, Princess Juliana, Churchwarden, Marmion, Duchess of Westminster and Gemma were all good. Among the Perpetual-flowering varieties that are noteworthy are British Triumph, Baroness de Brienen, Empire Day, Scarlet Glow, Fairmount, Cinnabar and White Wonder. Surmounted with Palms and edged with Ferns and moss the effect is pretty.

Near to the Embankment entrance is a triangular table group of Carnations, set up in quaint and artistic vases and charming baskets by Mr. A. F. Dutton, Iver, Bucks. The blooms in this group are remarkable for their clear, bright and striking colours; in fact, there is nothing like it in the exhibition. Britannia, Scarlet Glow, Triumph and Harlowarden are blooms of wonderful colours. Beautiful, too, are the pink tones of colour as represented by May Day, Mrs. A. F. Dutton, Rose Pink Enchantress, Enchantress, Winsor and others. Niagara and White Enchantress are superb white kinds. Mention should also be made of Mikado, the deep mauve of a unique tone of colour.

Perpetual-flowering Pinks are well shown by Mr. C. H. Herbert, Acocks Green, Birmingham, and are very welcome at this early period. Progress, Sunset, Delicata, Cottage Maid and Eclipse (a new salmon pink coloured sort, of a size equal to a Malmaison Carnation) are a pretty feature of this great show. Edged with Ferns and other foliage plants, this made a charming group.

A few tall vases of Carnations comprise part of the group set up by Mr. S. Mortimer, Rowledge, Farnham, Surrey, embracing several of the popular sorts that now find favour, including Victory, Triumph and Alma Ward.

Mr. Charles Blick, The Warren Nurseries, Hayes, Kent, so long associated with the late Mr. Martin Smith as his gardener, exhibits a very pretty little group of well-grown Carnations. Beacon (glorious), Enchantress, Salome, Empire Day, Scarlet Glow, Cecilia, R. F. Felton, White Wonder, Mikado, Winsor, Lady Alington, Scarlet Beauty, Mrs. C. Ward and King George are all well done.

An interesting collection of Carnations calls for note as shown by Mr. J. D. Webster, Chichester. Some of the blooms are remarkably handsome, such as Cecilia, Lady Coventry, H. J. Jones, Triumph, R. F. Felton, Lady Meyer, Rose Pink Enchantress, Carola and others.

Another beautiful representation of Carnations is that seen in the group set up by Messrs. Young and Co., Hatherley, Cheltenham. The roses, both large and small, are charmingly disposed on a groundwork of moss and foliage plants, and the effect is distinct and very pleasing. In the centre is a high stand of Cecilia, and four others, equidistant, of Duchess of Devonshire, Hon. Lady Neeld (two) and White Enchantress. Other small vases worthy of note are Edith Waters, Regina, Britannia, Mrs. Raphael, Winsor, Mikado and Scarlet Glow.

Associated with Azaleas, Mr. Charles Turner, Slough, has a number of Carnations in pots, such as Nautilus, Nell Gwynne, Lady Middleton, Princess of Wales and Thora.

A large circular group is set up by Messrs. William Cuthush and Sons, Highgate, N., and Barnet, Herts. This is another of the splendid efforts at this show, and the effect is truly artistic. Surmounted by a Palm in the centre of the group are Carnations, arranged in a receptacle high up above a mound of Lady Coventry in the pink of condition; well-elevated stands of Mrs. Lucy Mackinnon, Marmion, R. F. Felton, Mrs. C. F. Raphael, White Wonder and others; and in a charmingly undulating groundwork of Ferns and numerous other Carnations a handsome group is brought into effect.

A group of an undulating character embracing Statice and Malmaison Carnations, set up by Mr. Leopold de Rothschild, Gunnersbury, W. (gardener, Mr. J. Hudson), is a fine effort. The Carnations are of the Malmaison type, and the plants are well grown and the flowers all that could be desired. Princess of Wales and Blush Malmaison are the two varieties exhibited. Rarely are these two Carnations so well shown, and there is little doubt they will be noted by many who desire to excel in the cultivation of this type of the flower.

An attractive exhibit of Carnations is that pleasingly disposed by Mr. Bertie E. Bell, Cashel Nursery, Guernsey. Unique stands, stately vases and long glasses are artistically arranged with most of the leading varieties in fresh and clean condition. Among others to be seen in this table group are Winsor, Enchantress, Coronation, May Day, Mikado, Scarlet Glow, Judith, White Enchantress, Mrs. C. W. Ward and Marmion.

A pretty table group of Carnations is set up by Mr. H. Burnett, Guernsey. The flowers in this collection are very bright and of good quality throughout. Marmion, Mrs. C. F. Raphael, R. F. Felton, Carola, Benora, Beacon, White Wonder, Calypso, Mikado, Scarlet Glow and Mrs. Tatton are a few of the good things to be seen in this attractive group.

TREES AND SHRUBS.

Hardy Azaleas as shown by Messrs. R. and G. Cuthbert, Southgate, N., are always a great feature at the spring show of this society, and the display made by this firm this year is no exception to this excellent rule. Two really magnificent groups aptly describes this display of free-flowering plants. The colours are gorgeous, and the quality of the flowers all that could be desired. Mollis, Leon Vignes, J. C. Van Thol, Consul Ceresole, J. C. Van Thol Imperial, Chevalier de Reali and Baron Edmund de Rothschild are all noteworthy. Varieties of mollis × sinensis worthy of special mention are T. J. Seidel, Nicholas Beets, Ellen Cuthbert, Aureus and Clara Butt. Varieties of rustica fl.-pl. that call for notice are Corneille, Phœbe, Il Tasso and Aida. Edged with Ferns, the irregular grouping of the hardy Azaleas makes this exhibit a great feature of the show.

Mr. Charles Turner, Slough, groups plants and cut sprays of Lilacs in charming variety. Some of the plants need a little more time before they can be regarded as in proper condition. Volcan, Dr. Lindley, Charles X., Marie Legraye, Mme. F. Morel and Negro are good single-flowered sorts. Doubles are represented by Arthur W. Paul, Mark Micheli, Mme. Casimir-Perier, President Carnot, Mme. Lemoine, Belle de Nancy and others.

Japanese pigmy trees are well shown by Messrs. Barr and Sons, Covent Garden, London, W.C. Seldom have these quaint and curious examples of dwarf trees of ancient origin been represented in better condition, and their staging in a square group so that each individual specimen can be seen is a great advantage.

Messrs. W. Cutbush and Son, Highgate and Barnet, staged a miscellaneous group of flowering plants and other subjects. Rhododendron Pink Pearl, hardy Azaleas, Marguerite Pink Perfection, Hydrangea Mariesii, H. Monneur Ghys and Araucaria Silver Star are among the interesting things in this group.

Lilacs are shown by Messrs. W. and J. Brown, Stamford, near to the Embankment entrance. Although the plants are not large, there is a beautiful variety of both double and single kinds. Good

A CORNER OF MESSRS. SUTTON AND SONS' EXHIBIT, WHICH WAS COMPOSED ENTIRELY OF PLANTS RAISED FROM SEEDS.

double sorts are Mme. Lemoine Creanon, J. Guillot, Alphonse Lavallee and Leon Simon. Singles are interesting, such as Marie Legraye, Souvenir de Louis Spathe, Geant des Batailles and Mme. Francisque Morel.

New Chinese trees and shrubs are exhibited by Messrs. James Veitch and Sons, Limited, Chelsea, and are a constant source of attraction to many. Some of the more interesting plants are Cotoneaster Harroviana, Pyrus Folgneri, Stranvæsia undulata, Stuartia monogyna, Viburnum rhytidophyllum, Vitis armata, Viburnum Henryii, V. Davidii and Cotoneaster rugosa. Altogether a most interesting collection.

From Messrs. James Veitch and Sons, Limited, there is also a beautiful group of miscellaneous flowering trees and shrubs. Rhododendrons, Wistarias, Loniceras, hardy Azaleas, Clematises, Philadelphuses, Hydrangeas, Cytisuses and Rosa Hugonis are all very charming. Rhododendrons Mirabile, White Pearl, Pink Pearl and other varieties, together with the above-mentioned subjects, form a mass of flowers that is the centre of attraction to many.

Messrs. Stuart Low and Co., Enfield, Middlesex, have a mixed group of hardy and tender plants, in which Hydrangea The Bottle Brush Tree (Metrosideros floribunda), Leptospermum bullatum and Acacia pulchella are conspicuous.

Hardy Rhododendrons as exhibited by Messrs. John Waterer and Sons, Limited, Bagshot, Surrey, are a very fine feature indeed. The plants are in pots and are well grouped, and the flowers are superb. Some of the better varieties are Alice, Mrs. Fritton, Comer Waterer, Pink Pearl, Prometheus, Brilliant, Martin Hope Sutton, Marchioness of Lansdowne and Strategist. A few Acers dotted about here and there enhance the beauty of the display.

Wistarias in variety, growing in quaint and curious receptacles, are exhibited in interesting fashion by Messrs. Pipers, Bayswater, London, W. Rarely does the British public have an opportunity of seeing anything so novel, and some of the plants are flowering most profusely.

Mr. R. C. Notcutt, Woodbridge, has an interesting assortment of flowering and other shrubs, all combining to make a pretty exhibit. Cytisus andreanus, C. albus, C. Daisy Hill, C. andreanus prostratus, Kalmia latifolia, Lilacs, Fabiana imbricata, Acers and a host of pretty things are noteworthy.

Messrs. William Paul and Son, Waltham Cross, Herts, have a square, compact group at the side of the big tent embracing flowering trees and shrubs in variety. Rhododendron Pink Pearl, R. Lord Palmerston, hardy Azaleas, Genista hispanica, Cytisus albus, Honeysuckles, Clematises and numerous other subjects made a useful and interesting exhibit.

Rhododendrons in small baskets are represented in great variety in a group set up by Messrs. Fletcher Brothers, Chertsey, Surrey. William Austin, Helen Shiffner, Limbatum and Profusion stand out from the rest.

Clematises from Messrs. George Jackman and Son, Woking, Surrey, are always eagerly sought after, and a charming group will reward the seeker at this show. Quality of bloom is very noticeable, and many of the plants will be better a week later. The group, however, left nothing to be desired; interspersed with Palms and silver Acers the effect was distinctly pretty. A few good sorts are Lady Caroline Nevill, Jackmanni rubrum, Fairy Queen, Imperatrice Eugénie, Nellie Moser, Ville de Lyon and Mrs. George Jackman. This group is edged with Maidenhair Fern, and is a welcome relief to the gorgeous colouring elsewhere. Miscellaneous flowering shrubs and other plants are also well shown in another group by Messrs. George Jackman and Son. This is a very bright and attractive lot of plants, and all are well grown and freely flowered. Superb is Kalmia latifolia, and other good things are: Escallonia langleyensis, Cytisus scoparius andreana, Andromeda speciosus, Ledum latifolium and Lilac Mme. F. Morel.

HYDRANGEA SARGENTII, A NEW SPECIES FROM NORTHERN CHINA, SHOWN BY MESSRS. J. VEITCH AND SONS.

Hardy ornamental shrubs in the form of an outdoor group of a most varied collection of Acers was a praiseworthy effort on the part of Messrs. John Waterer and Sons, Limited, Bagshot, Surrey. Half-a-dozen of the best sorts are Acer palmatum var. laciniatum atropurpureum, A. p. var. dissectum palmatifidum, A. p. var. corallinum (very fine), A. p. var. dissectum florescens, A. japonicum var. aureum and A. p. var. sanguineum.

Clipped Box trees are extensively shown by Messrs. Carlton-White, 53, New Bond Street, W. In this group there are represented such subjects as Teddy Bears, dogs, peacocks, ducks, spirals, vases and a host of other designs too numerous to mention. This is a very large group.

Mr. L. R. Russell stages a most attractive group of Tree Ivies in beautiful variety, and most of them in splendid growth and good condition. A few kinds worthy of special notice are Sheen Silver (used as a fronting to the group), Gold Cloud, flavescens, amurensis, fructo-lutea, palmata aurea and marginata alba. There are some handsome specimens of dentata variegata.

A very large and representative group of clipped Box and Yew is set up by Messrs. William Cutbush and Sons, Highgate and Barnet. This firm is famous for its topiary work, and the present collection well merits a visit. Here are to be seen, in good form and condition, representations of ships, baskets, vases, anchors, tables, birds of every description, dogs and spirals. It is pleasant to view this outdoor group after the plethora of flowers indoors.

Comprehensive aptly describes the large outdoor group of Mr. L. R. Russell, Richmond, Surrey. In this charming group are to be seen hardy Azaleas in variety, Ceanothus veitchianus, Olearia Gunni, Cytisus in variety and a pleasing assortment of Vines. Vitis henryana is in very handsome form just now. Aucubas, Hypericum moserianum tricolor, Cupressus erecta aurea and a number of very interesting plants are admired by the many visitors.

A series of outdoor groups of trees and shrubs, arranged in the form of beds, is a useful and practical way of showing the value of the subjects planted therein. Hardy Azaleas are planted alone in one bed, Acers in another, Rhododendrons, Lilies, Viburnums, Weigelas, Cytisuses and many other pretty subjects in another, all combined to transform the grounds into a veritable pleasure ground or garden. This is a splendid conception of what visitors may in the future hope to see at these shows, and Messrs. Cheal are to be congratulated on this fine effort.

Clipped trees, as shown by Messrs John Piper and Sons, Bayswater, London, W., made a fine display. In this collection there are many very handsome matured specimens, representing a host of subjects. Peacocks, spirals, double arches, a man sitting on a garden seat and several unique designs seemed to appeal to many.

Beds of hardy Azaleas and Rhododendrons and other hardy flowering shrubs are pleasingly set out with paved walks between them, and garden seats arranged in suitable positions. The whole display is hedged in with closely-planted Yews, and the conception of this idea reflects much credit on Mr. R. C. Notcutt, Woodbridge, the exhibitor. The beds are raised very considerably, heightening the effect by these means.

Messrs. James Carter and Co. also have a beautiful outdoor garden, the beds of which are planted with hardy Azaleas, Viburnums, Acers and coniferous subjects, all combining, with the wall garden, to make a really pretty scene.

Messrs. Paul and Son, Cheshunt, stage a number of novelties in hardy Azaleas, some of which are remarkable for their novelty of colouring. Edith J. Keysell, High Beech Orange, Glory of Cheshunt, Moore and Milton are a few of the more striking sorts.

A very large and comprehensive group of Acers was exhibited by Messrs. W. Fromow and Sons, Chiswick, W. There seems to be an almost endless

variety, and the arrangement of the plants and their character prove at once their decorative worth in the garden. Acer palmatum corallinum, A. japonicum aureum and A. dissectum atropurpureum are conspicuously good.

Standard mop-headed Bays and a nice assorted lot of those of pyramidal form are exhibited by Messrs. John Piper and Sons, London and Barnes, Surrey.

Dwarf Japanese trees are shown by Messrs Liberty and Co., London and Paris, together with a number of accessories for a Japanese garden A fine specimen of a dwarf tree, some two hundred years old, occupies a prominent position in this collection.

TULIPS.

Tulips are magnificently shown this year. Considering the inclement season, it is wonderful how such fresh flowers as are to be seen, say, in Messrs. Sutton's group, have survived in the condition in which they are presented at this show The effect of the friendly covering of a grass shade during the latter part of their growth does wonders for Tulips, and there is no secret in the fact that the glorious examples of Mrs. Farncombe Sanders, Inglescombe Yellow, Mrs. Moon and Inglescombe Pink on Messrs. Dobbie's stand owe everything to this. It is unfortunate that for some reason or another the firm has not entered their Tulip group for award.

The large and varied group of Messrs. A. Dickson and Sons of Belfast is a delightful bit of arrangement, although the bottom row of vases look as if they had been disturbed before the grouping was quite finished. They include a very varied assortment of the different types and, together with that of Messrs. Barr and Sons, it has probably more instructive interest than any other.

Messrs. R. H. Bath of Wisbech has a collection arranged almost entirely on the ground and broken with five pillars of Rambler Roses. It makes a bright bit of colour, but somehow the grouping looks a little too mixed up to be very striking and it does not do itself justice in consequence. The few blooms of the famous Tulipe Noire surrounded by the beautiful pale yellow Leghorn Bonnet look well.

Mr. C. W. Needham has, what is very seldom seen, a good selection of the strictly florist types, such as Sir Joseph Paxton, Eos and Trip to Stockport. It is a thousand pities that the blooms are not set out to more advantage, as the public is so seldom treated to a display of these old-world beauties.

The Tulip bill of Messrs. J. Jefferies and Son of Cirencester is the most decided novelty in the way of arrangement in the whole exhibition. It has many things that could be said in its favour, but space forbids us to say more. This firm has immensely improved upon its show at the "International" last year, and it it had only had larger blooms, it would, we think, have qualified for a higher award than that which it received. Bronze Queen (or Clio, to give it its old name) and the never-to-be-surpassed gesneriana major were both good. So, too, were the vases of the grand old double "Blue Flag." Messrs. James Veitch and Messrs. Hogg and Robertson have two of the brightest displays of the day. In both cases the blooms are large and clean. The large masses of one colour affected by the former do show a variety to great advantage and must inspire those hesitating about a purchase more than, say, an isolated vase. The latter firm stage more variety, and among them are to be noted Plurot (pale pink), Erguste, Hammer Hales and Rossetta (rose slightly edged yellow).

Mr. C. Bourne has a small but well-grown and well-staged collection. Solfatare, Scarlet Emperor and Zulu were much above the usual average.

Messrs. Cartwright and Goodwin and the Wargrave Plant Farm both have small and interesting exhibits, and both have flowers in fresh condition. They will probably be finer on the last day, when they have grown, than on the first.

Dealing with the general arrangements of the show, we would like to be able to see the different groups in a little more comfortable manner when the general public come in. The gangways are much too narrow. Tulips do want to be seen at a little distance.

FRUIT.

It is clear that the exhibits in the fruit section have been prejudiced by the weather; not that those at Chelsea are inferior, except perhaps in colour, but they are not as numerous as might be expected and desired at a gathering so representative of British horticulture. With one exception the displays were of trees in pots or of trained specimens lifted from the open ground.

The King's Acre Nurseries, Limited, Hereford, have a varied group of plants fruiting in pots. Among the notable features are James Grieve, Lady Sudeley, Red Astrachan and Irish Peach Apples; Souvenir du Congrès, Marguerite Marillat and Conference Pears; British Oak, Progress, Lady Leicester, May Duke, Whinham's Industry, White Eagle, Dr. Wooley and Clayton Gooseberries; Cardinal and Early Rivers' Nectarines; Duke of York Peach; Negro Largo, White Ischia, Golden, Brunswick, Pingo de Mel and Black Bourjasotte Figs; and Early Prolific, July Green Gage and Blue Rock Plums.

It is surely superfluous to say that the outstanding feature of Messrs. Laxton Brothers' groups is the beautiful collection of Strawberries. The fruits are large, firm and the colour in most instances nothing short of wonderful. The varieties include King George, The Queen, The Earl, International and Maincrop. This firm also shows Loganberries, Laxtonberries, standard Gooseberries and Currants, as well as Peaches and Nectarines. Out of doors Messrs. Laxton have a very fine exhibit of trees trained in various forms.

Apples of the summer, autumn, winter and spring are equally represented in the collection shown by Messrs. G. Bunyard and Co., Limited, Royal Nurseries, Maidstone. They are a splendid object-lesson of the manner in which Apples may be kept when the conditions and circumstances are favourable. The varieties include King of Tompkins' County, Calville Malingre, Belle de Pontoise, Sturmer Pippin, King of Pippins, Cox's Orange Pippin, Alfriston, Hormead's Pearmain, Bramley's Seedling, Belle de Boskoop, Newton Wonder, Diamond Jubilee, Claygate Pearmain, Lord Derby, Ribston Pippin, Hambling's Winter Queening and Gascoyne's Scarlet Seedling. There are also some fine fruits of Uvedale's St. Germain Pear.

PART OF THE COLLECTION OF MAY-FLOWERING TULIPS SHOWN BY MESSRS. A. DICKSON AND SONS OF NEWTOWNARDS.

Oranges, Lemons and Citrons from Messrs. T. Rivers and Sons, Sawbridgeworth, are interesting examples of excellent culture, and suggest that these valuable fruits might well be far more extensively grown in our gardens. The same firm has also a separate group of Peaches Peregrine and Kestrel; Plums Stint, Early Prolific, Early Rivers and Blue Rock; Cherries May Duke, Elton, Frogmore Bigarreau and Knight's Early Black; and Nectarines Early Rivers and Cardinal. Needless to say the plants were clean and splendidly fruited.

In the grounds, surrounded by gorgeous flowers and charming rock gardens, Messrs. James Veitch and Sons, Limited, Royal Exotic Nursery, Chelsea, have a group of fruit trees trained in many forms, and they gain interest from their neighbours. The trees are perfect examples of how training should be done, and they illustrate how fine crops can be produced on a very small space.

VEGETABLES.

A collection of vegetables of superb quality comes from the Hon. Vicary Gibbs, Aldenham House, Aldenham, Herts (gardener, Mr. E. Beckett). The collection, which is staged in a masterly way, contains Peas Early Giant, Quite Content and Selected Duke of Albany (all with well-filled pods and in perfect condition), Climbing French Bean Princess of Wales, Dwarf Bean Canadian Wonder and Broad Bean Mammoth Longpod. Of the Cucumbers staged, Sutton's Matchless is doubtless the best, and other vegetables include Turnips White Gem and Early White Milan, Tomatoes Peachblow and Sutton's A1, Kohl Rabi, Vegetable Marrows, Cauliflower Magnum Bonum, Beetroot Sutton's Globe, Mushrooms, Potato King Edward VII. and Duke of York, Globe Artichokes, Egg Plants (purple and white) and Radishes. It is an admirable collection, worthy of the highest praise.

From the Thatcham Fruit and Flower Farm, Newbury, comes a creditable collection of vegetables, including Cauliflowers First Crop and Snowball, Tomatoes Early Market and Holmes' Supreme, Potatoes Duke of York and May Queen, Cucumber Covent Garden Favourite, Pea Gradus, Radishes, Lettuces, Beans, Carrots, Spinach and Vegetable Marrows. This exhibit was arranged by the ladies from the Horticultural Training School at the Thatcham Fruit and Flower Farm.

Two new Cucumbers are being shown by Mr. S. Mortimer, Rowledge, Farnham, Surrey. The varieties are Continuity and May Queen. Both varieties were shown in perfect condition and uniform in size.

Entering the main entrance from the Embankment, one of the first exhibits to be observed is that of Messrs. James Carter and Co., in the form of a choice collection of vegetables arranged on a neat and effective white stand. The vegetables, all of which are grown from Carter's Tested Seeds, include Cauliflowers Forerunner and Defiance Forcing, Broccoli Spring White, Peas Early Morn and Early Duke, Dwarf Bean Improved Longsword, Broad Bean Seville Giant Longpod, Cucumbers Carter's Ideal and Frame, Seakale, Beet, Tomatoes, early Carrots, Lettuce, Kohl Rabi, Radishes, Potatoes and Marrows. This exhibit is of very high quality.

Messrs. Sutton and Sons, Reading, have arranged an exhibit of tempting early vegetables and delicate salading. The produce of the firm's well-known varieties include Dwarf French Bean Superlative; Peas Duke of Albany, Green Gem and Early Giant; Cucumber Telegraph, Tomatoes Early Market, Winter Beauty, Eclipse and Princess of Wales; Asparagus Reading Giant and Perfection, Potatoes, Turnips and Carrots. This is a first-rate collection.

Mr. Theo E. Dawes, Syderstone Nurseries, Norfolk, is showing a fine collection of Rhubarb, with sticks of Dawes' Challenge well over three feet in length.

AWARDS.

FLORAL COMMITTEE'S AWARDS.

First-class Certificates.—Nephrolepis exaltata Willmottæ, from Messrs. May: Cupressus lawsoniana Fletcheri, from Mr. Fletcher; and Meconopsis Delavayi, from the Edinburgh Botanic Gardens.

Botanical Certificate.—Olearia Chathamica, from the Rev. A. T. Boscawen.

Awards of Merit.—Campanula Stevensii nana, from Mr. R. Prichard; Pentstemon Davidsonii, from Mr. Elliott; Auricula William Smith, from Mr. Douglas; Calceolaria Clarefield Gem, from Mrs. Litkie; Rose Nancy Perkins, from Messrs. Perkins; Rose Irish Fireflame and Rose Mrs. Campbell Hall, from Messrs. Alex. Dickson; Saxifraga Grandfieldi, from Sir Everard Hambro; Begonia Lena, from Messrs. Blackmore and Langdon; Roscoea cautlioides, from Bees, Limited; Rose White Tausendschön, from Mr. W. Paul; Sarracenia Brucii, from Mr. A. J. A. Bruce; Aster Falconerii, from Messrs. Barr and Sons; Cytisus andreana prostrata, from Mr. L. R. Russell; Styrax Wilsoni, from Miss Willmott, V.M.H.; and Lonicera tragophylla, from Messrs. J. Veitch and Sons.

ORCHID COMMITTEE'S AWARDS.

First-class Certificates.—Cattleya Empress Frederick alba, from Messrs. Marshall and Hatcher, Rawdon, Leeds; Odontioda Chanticleer Orchidhurst variety, from Messrs. Armstrong and Brown, Tunbridge Wells; Lælio-Cattleya Britannia Westonbirt var., from Lieutenant-Colonel Sir George Holford, Tetbury, Gloucestershire; Lælio-Cattleya Sylvia, Princess Victoria Louise and Miltonia Charlesworthia, from Messrs. Charlesworth and Co., Hayward's Heath; Lælio-Cattleya Frederick Boyle Gatton variety and Odontoglossum Queen of Gatton, from Sir Jeremiah Colman, Reigate; and Odontoglossum Othmarschem, from Baron Bruno Schröder, Englefield Green.

Awards of Merit.—Odontoglossum eximium Armstrongæ, Brasso-Cattleya Excelsior and Lælio-Cattleya Aphrodite splendens, from Messrs. Armstrong and Brown, Tunbridge Wells; Oncidium McBeanianum, Cattleya Mendelii May Queen, Odontioda Charlesworthii Perfection, and Cymbidium gottianum superbum, from Messrs. J. and A. A. McBean, Cooksbridge; Lælio-Cattleya Ganymede Holford variety and Odontoglossum Illustrissimum Westonbirt variety, from Lieutenant-Colonel Sir G. Holford, Tetbury, Gloucestershire; Odontioda chelseaensis variety St. Fuscien, from M. Graire, Amiens, France; Odontoglossum Georgius Rex, from Messrs. Charlesworth, Hayward's Heath; Brasso-Cattleya vilmoriniana var. Etna, Odontonia Lælia Sander and Oncidioda Cooksoniæ var. illustris, from Messrs. Sander and Sons, St. Albans.

Cultural Commendations.—Sobralia macrantha alba, from J. Gurney Fowler, Esq., South Woodford; Miltonia vexillaria virginale, Miltonia vexillaria Snowflake and Cattleya Mossiæ Mahomet, from Lieutenant-Colonel Sir G. Holford, Tetbury, Gloucestershire.

The Farrer Cup for the best six new or rare dwarf rock plants was awarded to Messrs. Bees, Liverpool, and the Davidson Cup for the best Cattleya, not a hybrid, to Messrs. Charlesworth, Hayward's Heath, for Cattleya percivaliana Mary Regina.

The other cups and medals awarded were not known at the time of going to press.

AN EFFECTIVE GROUP OF TULIPS ARRANGED BY MESSRS. R. H. BATH, LIMITED, ON THE FLOOR.

SUNDRIES.

OUTSIDE.

A specially interesting exhibit of boilers is being shown by Messrs. C. P. Kinnell and Co., Limited., 65, Southwark Street, E.C., including models of the Anglian independent sectional of new and improved form. The Rochford and Bisson are also suitable types for large growers, and amateurs' needs are catered for with the Horseshoe and Charm patterns.

Messrs. Skinner, Board and Co., Exmoor Street, Bristol, have specimens of their noted wire tension span-roofed glass-houses on view, also heating apparatus.

Syringes and spraying apparatus are shown by Messrs. Benton and Stone, Birmingham, including pumps in various forms, one of the knapsack pneumatics having a mechanical agitator, which is a great advantage.

Messrs. D. Roberts and Son, Tottenham, show plant tubs of excellent design and finish, garden seats and furniture.

Boilers of sectional form, exhibited by Messrs. Höntsch and Co., Guildford, are also on view.

A useful and varied selection of well-made garden tools is staged by the Hardy Patent Pick Company, Keeley, Sheffield, which should prove of interest to all gardeners, whether professional or amateur.

Vermorel spraying machines of varied sizes and types are on view and displayed in tasteful form by Messrs. Cooper, Pegler and Co., 24, Christopher Street, E.C.

(*Continued on page* xx.)

THE ROSE GARDEN.

TOP-DRESSING ROSE-BEDS.

A TOP-DRESSING is beneficial in all seasons, but it will be doubly helpful this year, considering the showery weather we are having. Of course, much depends upon what we have already given our Roses in the shape of fertilisers as to the material advisable now. One must be careful at all times not to apply a top-dressing, or mulch as it is sometimes termed, that is going to close, as it were the pores of the soil.

We all doubtless know how essential air and warmth are to the soil, during the growing season especially, hence our main object in hoeing the surface; but it is quite possible to apply such a top-dressing as will admit the essential air, and at the same time afford nourishment to the numbers of roots that abound upon healthy plants. If one has a number of weakly plants, it would be utter folly to top-dress such plants with a powerful fertiliser; but to the strong, well-established specimens a top-dressing of such a composition as Wakeley's Hop Manure would be highly valuable. I have a high opinion of this compound, because I have proved its value; but I may here say that in spent Hops alone we have also a valuable ingredient, which, if lightly sprinkled with sulphate of ammonia, say, at the rate of half an ounce per square yard, will be very beneficial. The spent Hops may be applied, say, about an inch in depth, and then let the material be hoed or very lightly forked into the soil.

It must be remembered that Roses send out a lot of small feeders, which come very near the surface; hence the need for caution in forking up. To obtain the full benefit of sulphate of ammonia, the soil must contain lime in a good proportion, and the best time to apply this would be in the autumn. However, there are few soils that are really deficient of this article, so that one may safely apply the above now.

Another excellent top-dressing is compounded as follows: One hundredweight each of kainit, bone-meal and dried blood, mixed with about six bushels of rather dry soil, the whole well mixed together and placed in an airy, rainproof shed, and after two days apply a liberal dressing all over the beds, repeating this again in a month.

Some of the preparations sold by reliable firms are excellent for top-dressing, but the amateur is apt to be too liberal in their use. If applied well beneath the prescribed quantity and mixed with soil and well hoed in, they are of much fertilising value. Rape-meal is a splendid substitute for farmyard manure, and makes a capital top-dressing. Apply at the rate of about four ounces to a square yard and fork it into the surface soil. As I said at the commencement, if the Roses were heavily manured in autumn or early spring, it may be they will not require a top-dressing, but instead give them some good liquid manure as soon as the buds are about the size of Peas, and continue this twice a week until the buds show colour. To Roses that appear somewhat weakly, a handful of nice compost, consisting of equal parts of fine soil and bone-flour, spread around them will be helpful, and they may have in addition a very weak solution of liquid cow-manure once a week. If any difficulty is found in obtaining spent Hops, old hot-bed manure, well broken up, can be utilised; in fact, if this is available, then the Hops will not be needed.

Peat-moss litter I do not care much about, as it settles down too closely. If dug under, there is less danger on this head, but I would avoid it if possible. In such a dripping season as it is there is little need for the ordinary mulch, save upon very shallow, gravelly soils. In their case it cannot but be useful, and it is surprising in what a shallow soil Roses will thrive if they are well fed by top-dressings followed with good and frequent stirring of the surface and applications of weak liquid manure whenever the plants show signs of exhaustion.

DANECROFT.

ROSE MME. EDOUARD HERRIOT, A BEAUTIFUL NEW VARIETY SHOWN BY MESSRS. G. BECKWITH AND SON AT THE CHELSEA SHOW.

TREES AND SHRUBS.

STRONG-GROWING CLIMBERS FOR PERGOLAS.

CLIMBING Roses are so popular for planting on pergolas that many rely upon them entirely and take little account of the many climbing plants of other kinds which are suitable for the purpose, notwithstanding the fact that they have much to commend them either by reason of ornamental foliage or showy flowers. All climbers are not, however, suitable for pergolas, those of weak growth perhaps least so. Plants of weakly growth fail to attain the luxuriance of their stronger companions; therefore when planted together the effect is gappy, a condition fatal to the generally-accepted idea of the appearance which a pergola should present. In the following notes attention is directed to various strong-growing climbers which may be used for the purpose.

The Wistarias are perhaps the most beautiful of all flowering climbers for planting against pergolas, and at no time are they seen so effectively as when grown in such a manner. The pendulous racemes of flowers hang gracefully from both pillars and cross-bars, their delicate colouring and perfume being highly appreciated by all. Although the common W. chinensis is very beautiful, it is doubtful whether it is so generally useful for the purpose as W. multijuga; but the latter plant must only be planted against pergolas of considerable height, for the pendulous racemes are often 2½ feet to 3½ feet in length. The colour is mauve, but there is a variety, alba, with white flowers and rather shorter racemes.

The new Actinidia chinensis is another decorative climber. Its assets are the bright brownish hairs which cover the young bark, large, heart-shaped leaves, and the yellow flowers, which are about one and a-half inches in diameter. In China it is considered useful on account of its edible fruit. Celastrus articulatus, a near relative of the common Spindle Tree, is less frequently seen than its decorative qualities warrant. Forming long, strong branches, it may be expected to cover the highest support in a comparatively short space of time. Its fruits are its chief attraction, for when ripe they are highly coloured, the outer part being yellow and the covering of the seeds orange scarlet. As the fruits ripen, the outer covering bursts, disclosing the brighter seeds within. In this condition they remain from September to Christmas. The flowers are inconspicuous. Akebia quinata and A. lobata are a couple of strong-growing climbers which belong to the Berberis family. In the former case the five-parted leaves, and in the latter case the three-lobed leaves, are decidedly ornamental, while the purple flowers appear in profusion in spring.

Jasminum nudiflorum is well known as a winter-flowering climber, covering walls and trellises; but it is equally desirable for a pergola. The fact must always be remembered, however, that it must not be pruned at any other season than late winter or very early spring, otherwise the flowering wood will be cut away. The summer-flowering Jasminum officinale is also an admirable climbing shrub, for it grows well and its fragrant, white flowers always find admirers. There are several Honeysuckles which are worth attention. The common wild Lonicera Periclymenum and its various forms are among the best, while the Chinese and Japanese L. japonica is both free-growing and free-flowering. The varieties chinensis, flexuosa and halliana are equally worthy.

Where the garden varieties of Clematis can be depended upon, they make admirable subjects; but, unfortunately, there are many gardens where they behave in an unsatisfactory manner; therefore in those gardens it is advisable to rely upon species and botanical varieties. Clematis Flammula makes a most effective object in August when covered with its small, white, sweet-scented blossoms, while its variety rubro-marginata is also attractive. Earlier in the year, May and early June, C. montana may be expected to produce a wealth of bloom, the flowers being white; while a good companion plant may be obtained in the variety rubens, which has red flowers. C. orientalis, with yellow flowers; C. campaniflora, with pale mauve flowers; C. grata, with white, violet-tinged blossoms; and C. Durandii, a hybrid with bluish flowers, are other desirable kinds.

Aristolochia Sipho, sometimes called the Dutchman's Pipe on account of its peculiarly shaped flowers, is another useful pergola shrub, for, in addition to its being of rampant growth, its large, deep green leaves are decidedly ornamental. Although rarely met with outside scientific establishments, the Moonseed (Menispermum canadense) might well be included as a pergola plant. Its rounded leaves are dainty and attractive, while it bears bunches of black berries. Periploca græca is another climber which is not often met with. It grows vigorously and bears purple flowers in summer.

Several of the new kinds of Chinese Rubus are well worth planting against pergolas, particularly R. bambusarum and R. flagelliformis.

Numerous species of Vines may be obtained which have highly ornamental foliage; in fact, a pergola of considerable length might be made very interesting with Vines alone. Among others, Vitis Labrusca, V. henryana, V. Thunbergii, V. Coignetiæ, V. armata, V. Leeoides, V. megalophylla and V. Thomsonii are specially noteworthy. V. megalophylla is a particularly ornamental kind, for its much-divided leaves are frequently upwards of 1½ feet across. V. Leeoides is also remarkable for its pinnate leaves.

In the South and West of England a very pretty white-flowered climber is often seen covering walls and fences. That is Solanum jasminoides. It is equally suitable for pergola planting, but may only be grown in the warmer parts of the country. The Trumpet Flowers, Tecoma radicans and T. grandiflora, grow quite well in many gardens, but must only be planted in sunny positions, else they will fail to perfect their flowers.

As a rule, these climbers are only seen at their best when planted in really good soil; hence the necessity of making sure that the soil conditions are right before planting, for no amount of top-dressing afterwards will make up for inferior soil about the roots. K.

A SPRAY OF THE ROSE ACACIA, ROBINIA HISPIDA MACROPHYLLA. THIS IS A BEAUTIFUL SHRUB THAT FLOWERS IN JUNE.

ROBINIAS OR FALSE ACACIAS.

AMONG the large number of leguminous trees and shrubs cultivated outside in this country, the Robinias or False Acacias hold an important position as ornamental subjects. There are five species, all natives of North America, and a considerable number of varieties. Very attractive when in flower, the numerously-divided leaves render the trees ornamental at other seasons, while in winter there is much to admire in the picturesque trunks of old specimens of the False Acacia (Robinia Pseudacacia).

Robinia hispida (the Rose Acacia) forms a beautiful bush up to 6 feet or more in height, with Fern-like foliage. The branches are clothed with stiff, bristly hairs reddish brown in colour; hence the name R. hispida. The rose-coloured flowers are freely borne in pendent racemes. The variety macrophylla, illustrated below, is a far finer plant than the type, having much larger leaves and flowers, while it lacks the bristly hairs so notable in the common Rose Acacia. The flowering season is June. A little attention is necessary in pinching and pruning the bushes in a small state, as, naturally, the habit is rather straggling. R. hispida does not produce mature seeds under cultivation, and even in a wild state good seeds are rarely, if ever, found. Fortunately, the bushes sucker freely, and propagation is also possible by root-cuttings. Pieces of root as thick as a pencil and 3 inches or 4 inches long will grow if taken off in early spring and started in a propagating-frame. The variety macrophylla can be grafted on the type or the False Acacia (R. Pseudacacia). The year 1758 is given as the date of introduction of the Rose Acacia from the Southern United States.

R. neomexicana.—A native of Arizona, Colorado and New Mexico, this species was introduced as recently as 1887 into British gardens. In a wild state it is found as a small tree 20 feet to 25 feet in height. The pinnate leaves are interspersed with racemes of white flowers flushed or tinted with rose.

R. Pseudacacia (the False Acacia or common Locust) is the most popular Robinia in parks and gardens. It is quite at home in this country, attaining a height of 50 feet to 70 feet or more. Introduced from the Eastern United States in 1640, plenty of old, picturesque specimens exist in this country. The timber is notable, being very hard and durable. The elegant Fern-like foliage is very attractive. In June the trees produce quantities of white flowers in racemes. The False Acacia is useful as a street and town tree, thriving quite well in the London district, though in recent years it has been superseded by the variety inermis. Something like forty varieties or sports from the type have been given distinctive names. The most useful and distinct of them all are the varieties bella rosea, rose-coloured flowers; bessoniana, a tree more formal in growth; decaisneana, a French variety with deep pink blossoms; fastigiata, a tree very upright in growth, like the familiar Lombardy Poplar; and inermis, a thornless, small tree, a favourite for street planting.

R. viscosa (the Clammy Locust) grows 30 feet to 40 feet high. In the *Botanical Magazine*, t. 560, it is figured under the name of R. glutinosa, both names referring to the sticky glands on the young twigs and leaf-stalks. The pale rose-coloured flowers are borne at the end of June, thus being later than those of the common species. It was introduced to Britain about 1797, and is a native of the Southern United States.

GARDENING FOR BEGINNERS.

A SIMPLE ARRANGEMENT OF SUMMER BEDS.

DIFFICULTY is sometimes experienced by beginners in deciding how to plant their flower-beds in a way which would produce good effect during the summer months and at the same time be of simple design. The beds illustrated on this page are very simple in form, and are planted with effective subjects; and although a block of beds is represented, this need not prevent any form of beds which may be dotted about the garden being planted with the subjects recommended.

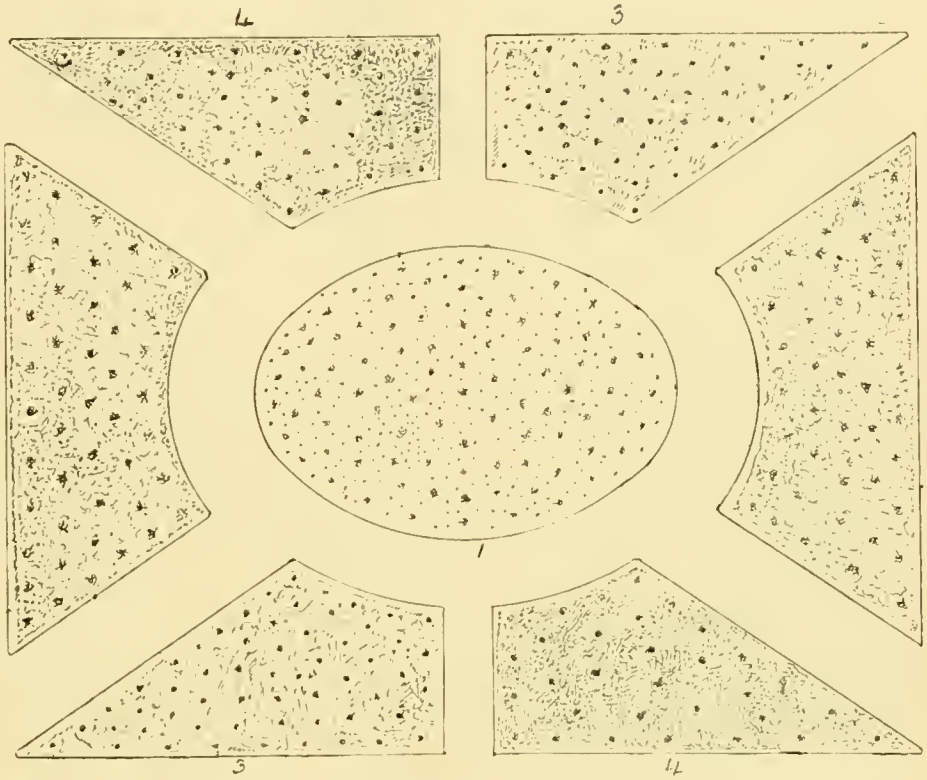
The centre bed is to be planted with that very fine Pentstemon Southgate Gem in a carpet of Viola White Swan. The Pentstemon should not be planted too thickly. Give the plants plenty of space, viz., 18 inches to 24 inches between the plants, and fill in with the Violas. The plants should have been rooted from cuttings inserted last autumn. Placed in small pots in March last, the Pentstemons should by this time be well established and ready for planting in the beds. The Violas, formerly rooted under hand-lights, should also be ready for transferring to the beds in which they are to flower well into the autumn months. As a matter of fact, this bed would continue to flower well into November unless very sharp frost put an end to the flower-spikes of the Pentstemons.

No. 2 beds will also prove effective and lasting. Begonia Hilda is a very fine bedding plant. Each plant should have ample room to develop, filling the space between the plants with Alyssum Little Dorrit, which can be raised from seed in a very short time, and which will continue to flower well into the autumn.

No. 3 are planted with White Intermediate Antirrhinums, and, although not shown in the plan, pale blue Violas may be planted with them. If, however, this is done, the Antirrhinums must be planted 18 inches apart, in order to give the Violas room to develop. This I leave to the discretion of the planter.

No. 4 are planted with yellow Begonias. Either the single or double variety may be used. If it is decided to use the double, see that the flower-stems hold the flowers well up above the foliage, or choose an erect-growing variety. Sedum glaucum is used as a carpet plant. This Sedum has the merit of keeping the soil cool and moist, a condition of things very essential to the Begonia.

As above stated, it is not at all necessary or intended that the scheme of planting should be confined to a formal set of beds. It is equally suitable for any kind of bed, whether isolated or one of any number. A. T.



SOME SIMPLE ARRANGEMENTS FOR SUMMER BEDS. THE SCHEMES ARE SUITABLE FOR SEPARATE BEDS AS WELL AS A SET AS SHOWN.

HOW TO HARDEN BEDDING-OUT PLANTS.

THE time has come when hundreds of thousands of bedding-out plants will be placed in the open air to get inured to the outside temperature before being planted in the flower-beds. It is necessary, and wise, too, to see to this work very carefully. With the exception of Calceolarias, Marguerites and a few other kinds, which only need frost being kept from them in winter-time, all should be gradually exposed to the air. It is, however, a fact that many inexperienced cultivators are too rash in thus exposing their plants, and so cause them to be checked and even much disfigured. A sheltered position must be selected, but not one unduly overshadowed by tall trees or buildings. A bed of ashes is a good base for the pots and boxes. A few laths or Pea sticks supported by forked pegs will bear up a thin covering material such as scrim, and this should be put on for a few days at first; then for a few days only while the sun shines. Do not water the foliage while the sun is shining on the plants; then there will be no danger of scalding the leaves. B.

HOW TO FILL FLOWER-BASKETS.

A BASKET in a window, porch, or several in a greenhouse, neatly filled with flowering and foliage plants, look very charming indeed. Beautifully-furnished baskets may very often be seen, but there are many also which are not an improvement to the appearance of the structure in which they are placed. Plants grown in pots are generally well prepared for establishment on stages and similar places, and so, also, should plants grown in hanging baskets be well prepared.

Failure is often courted by inexperienced cultivators putting the plants in the basket and forthwith suspending it in the bright sunshine under the glass. The best way is to fix the basket on a wire or strong piece of cord at a convenient height from the ground to enable the workman to walk round it freely. Then he must put in a lining of very fresh moss, pressing it firmly to the sides of the basket, and filling up with compost and plants as the moss is placed in position; then the roots of the smaller plants which are grown through the sides can be better arranged in the soil as the work proceeds. It is very important that a good rim of sound moss be built up at the top of the basket, and also that sufficient space be left to hold water. A mistake is very often made in both respects.

The Compost should be a good one, and, generally, it must contain some fibrous loam and well-rotted manure. When the basket is filled, water carefully and syringe the sides. Unsuitable plants are sometimes used, and then disappointment is sure to follow. Fuchsias or similar graceful plants form good centre subjects. Ivy-leaved Pelargoniums are very effective indeed. The Zonal Pelargoniums may be employed, also Coleuses and Petunias. For shaded positions, Ferns in their pots look well in the centre, with pendulous-growing Fuchsias to depend from the sides of the basket. Selaginellas, Panicum variegatum and Tradescantia zebrina form a lovely covering to the sides of the basket. When the baskets are finished, place them in a shaded part of the greenhouse for ten days or a little while longer, keeping the plants syringed or watered to establish them, and then put the baskets in their summer positions. SHAMROCK.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Preparations for Bedding-out.—Now that early-flowering bulbs are over, preparations may be made for summer bedding. Several of the groundwork plants may still be making a good show; but as our summer season is usually so short, no time should be lost in getting the beds ready for planting, especially where there is a lot of them to do.

Removal and Care of Bulbs.—Hyacinths, Tulips and Narcissi, after being lifted so early in the season, are not to be relied upon to make a good show in the beds another season, but by careful lifting and laying in in light soil in a semi-shady position, they should be quite good enough for planting in borders or for naturalising in grass next season, this latter applying more particularly to the different varieties of Narcissi.

Arabis and Aubrietia should also be carefully lifted, and, after being carefully cut over, planted in a border to provide stock for next season, the former to be propagated from cuttings and the latter by division.

Polyanthuses also should be lifted, splitting up the best varieties and planting in nursery beds where they can remain till the autumn. In each instance it may be necessary to give the plants one or two waterings to establish them, especially if the weather is hot and dry.

The Rose Garden.

The Rose Maggot.—Though there are many very efficacious insecticides on the market, I have not found one that can be relied upon to kill these grubs, and to rid the plants of this pest they must be systematically looked over, killing the insects between the thumb and finger.

Aphis, too, makes its appearance very early, and to keep the plants quite clean they require spraying with an insecticide at least once every week, a carefully-prepared paraffin emulsion being one of the most effective remedies, and the Holder Pneumatic Sprayer is perhaps the most economical method of applying it.

Disbudding or thinning the shoots has to be practised where really good blooms are required, this being more necessary where a close system of pruning is practised. All weak shoots should be removed as soon as they attain an inch or 2 inches in length, leaving the strongest and best-placed shoots to bloom. This thinning applies equally as much to standards as to dwarfs, though in the latter case more shoots should be left so as to leave a good, full and shapely head.

Plants Under Glass.

Fuchsias, Begonias and Gloxinias are all plants that are benefited by a little shade, and the same applies to Streptocarpi and Cefosias. If roller blinds are not fixed to the houses occupied by such subjects, a little permanent shading should be put on, starch and whiting carefully mixed and put on thinly being sufficient to stop the full glare of the sun without impeding too much light, and this will last the season through quite well and come off easily when desired.

Chrysanthemums.—The most forward plants of the large-flowering section will now be ready for their final potting, and the strongest growers should be put in 11½-inch pots. A moderately rich loam, with the usual addition of short manure, leaf-soil, cinder ashes, lime rubble, bone-meal and sand, is the best for them, and good, firm potting is necessary to secure a steady and well-hardened growth. Sufficient room should be left in the pots to allow of three or four slight top-dressings later on in the season. The plants should be fairly moist at the time of potting, and they must be well watered in before the ball of old soil gets really dry, or a loss of foliage will probably result.

The Kitchen Garden.

Parsnips should be thinned when nicely in the rough leaf, and if fairly strong might be finished right off at the one thinning, say, to a foot or 15 inches apart, after which give a good sooting and break up the ground nicely with the hoe.

Early Carrots also may be thinned to the requisite distance apart. If of the Shorthorn varieties, 4 inches to 6 inches is sufficient space to allow them; but the longer varieties should be allowed from 9 inches to 1 foot apart. Where there is any fly on the foliage, it should be carefully sprayed with paraffin emulsion or some other insecticide.

Runner Beans in boxes or pots and Sweet Corn should be gradually hardened off preparatory to planting in the open; also Marrows and Gourds, as after this week one feels comparatively safe from frosts here in the South.

Fruits Under Glass.

Early Muscat Vines that are stoning must be very carefully handled just now, the least inattention to airing in the early morning often resulting in scalded berries, and after being well thinned the scalding of only three or four berries will often spoil the appearance of a bunch. Plenty of moisture is very necessary at all times now, but an excess of it in the atmosphere as the temperature rises, with insufficient ventilation, often results in scalding.

Front Ventilation on Muscats I am not at all in favour of, particularly if the house is fairly high at the eaves. I think this is more productive of red spider than anything else, a draught of air right through the house drying the atmosphere far too quickly.

Hardy Fruit.

Figs on walls and in sheltered positions are now pushing forward their fruit, the somewhat mild winter being favourable to them. Where the roots are partially confined, a good soaking of liquid manure at this stage will help them very much, but it is hardly wise to give it to them unless it is noted that the fruit is swelling a little.

Forced Strawberries that have come through the houses in a clean condition may be planted (if required) to make up a permanent bed, and such plants, especially of the variety Vicomtesse Héricart de Thury, will often give a very fair crop of fruit in August and September. Needless to add, watering will have to be resorted to until the plants get a good hold of the soil.

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FOR NORTHERN GARDENS.

The Flower Garden.

Bedding-Out.—Beds which have been occupied by Wallflowers should receive an extra supply of manure, as these exhaust the soil very much. Where Begonias are to be planted, the ground should have a good admixture of flaky material, such as old Mushroom manure or good leaf-mould, plus bone-meal. The hardier things, such as Geraniums, should be planted first, the more tender things, such as Begonias and Cannas, being left till the last.

Dahlias.—The plants should now be fully exposed, but planting should be delayed till June comes in, especially in districts where late frosts are of frequent occurrence.

Planting Auriculas and Primroses.—Where these are dotted about the herbaceous beds and borders, and it is the intention to increase the stock or to replant more deeply, this is a good time to do so; and as these plants all incline to get leggy, they should be planted so deeply that the lower leaves will be almost at the ground-level.

The Reserve Garden.

Spring Bedding.—Many subjects will now have to be removed from the flower garden and planted in the reserve garden. They will include Arabises, Primroses, Polyanthuses, Auriculas and Daisies. Arabis can be planted without roots, which it will soon make if planted deeply and firmly. All the others named should be broken up, according to the size of the plant, and planted rather deeply in lines about one foot apart and from 6 inches to 9 inches apart in the rows.

The Rose Garden.

Aphis.—Many of the Hybrid Teas will soon be in flower, and, before, this occurs, care should be taken that the bushes are free of aphis. As already suggested, Quassia Chips Extract, XL All Liquid Insecticide or soapsuds may be applied with equally good results.

Suckers.—A close watch must be kept for these, and they should be removed at once.

Climbers.—It is a waste of energy to allow a number of superfluous shoots to develop and then cut them away. By removing these now the vigour of those retained will be increased by means of the extra sap and light at their disposal.

Plants Under Glass.

Hibiscus Manihot.—This erect-growing Hibiscus makes an excellent conservatory plant, its one drawback being that the individual blooms are short-lived. Seeds sown early in spring will yield a batch of plants which will bloom in autumn, but seeds sown in heat now will give nice strong plants for next season. The plant requires a warm greenhouse temperature.

Perpetual Carnations.—Young stock in 3-inch pots should be potted on, using 5-inch pots. Good yellow loam, with the addition of a little sharp sand, wood-ashes and dry cow or sheep manure, will suit them at this juncture. All young stock will now be better in cold frames, which should be well ventilated. Vaporise for aphis.

Fruits Under Glass.

Thinning Late Grapes.—This work is sometimes apt to be overlooked in the height of the bedding-out season. It is work, however, which, if delayed, becomes increasingly difficult, and should therefore receive attention at all hazards. I repeat the advice given on this subject earlier in the season—see that hands and scissors are clean, use a forked piece of wood for manipulating the bunches, retain the largest berries so far as is consistent with equal distribution of these, and preserve the full circumference of the bunch.

Ventilation Overnight.—Unless the weather is cold and gusty it is an advantage to leave a chink of air on overnight, and in the case of early crops beginning to show colour it is specially advisable.

Tomatoes.—Continue to feed the earlier crops in pots, but see to it that the plants are not really dry at the root when the feeding is applied. Continue to tie later crops and see that all lateral shoots are promptly pinched out.

Melons.—Where fruits are ripening, water must be gradually reduced. Fruits are sometimes cut too soon by those who are inexperienced. Two tests are applicable—a well-ripened fruit should have a rich aromatic scent, and should begin to crack round the stalk.

The Hardy Fruit Garden.

Gooseberries for Tarts.—These are much in demand in most establishments, and in some gardens a proportion of Whinham's Industry is grown specially for this purpose. If, however, the crop is an average one and the fruits are judiciously thinned, the general crop will be improved rather than injured by the removal of a proportion of the fruits at an early stage.

Caterpillars.—Should this pest assert itself it may still be annihilated by spraying with arsenate of lead, as previously directed, but the fruits must not be used within a month of its application.

The Kitchen Garden.

Planting Celery.—This work will now require attention. As indicated in the calendar last week, the width of the trench and the number of rows to a trench are immaterial matters provided each plant is allowed from 12 square inches to 15 square inches to develop. Give a good watering after planting.

Staking Runner Beans.—This work should receive attention as soon as the growth is a few inches high. Tall, bare branches, or sawn stakes similar to those used for Hollyhocks—undressed, of course—will suit them.

Sowing Kidney Beans.—A late sowing should be made within the next week. If the ground is dry, water the seed lines well after sowing, and do not allow the seed to become dry till germination takes place.

Herbs.—Plant out those which were raised from seed.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

CHRYSANTHEMUM NOTES.

PLANTS FOR THE FLOWER GARDEN.

THE early-flowering varieties are not grown in the flower garden as extensively as they deserve. Dahlias, too, may be associated with them, but in separate beds, of course. Many amateurs have in their gardens nice box-struck plants at the present time. These should be planted out during the latter part of May or early in June in the beds in which they are to flower. The soil should be enriched with well-rotted manure, and, if of a heavy nature, properly broken up. The young Chrysanthemums will soon get established, form side branches and make neat specimens, flowering, according to variety, from July to November.

In many gardens there are corner or out-of-the-way beds which, if filled with Chrysanthemums, would provide flowers for cutting and placing in vases. The best effect is obtained when distinct varieties are planted in each bed, but a border in an obscure part of the garden may be filled with a number of varieties. July, August and September flowering varieties may, with good effect, be associated with other kinds of bedding-out subjects, such as Fuchsias, Liliums, Lantanas and Heliotrope. Directly the plants—growing in separate beds—are established and have formed plenty of new roots, commence to feed them, diluted cow and stable liquid being very beneficial. Those plants growing with other kinds must not have manure-water, except in cases where the soil is very poor, as a too gross growth of the other subjects might result. Many varieties of the early-flowering singles look charming in the flower garden.

Pompons for Cutting.—In a cosy corner in the vegetable garden, or other suitable quarter, a nice batch of Pompons may be planted for supplying cut blossoms for small as well as large vases in the autumn. I have grown them in this way for many years with great success, using small sprays for low vases on the tables, and cutting them with long stems for placing in the tall trumpet vases either by themselves or mixed with the large-flowered sorts. In any form they look charming in vases. It is advisable to plant these varieties in rows about three feet apart in a border, so that it will be quite convenient to put on a temporary covering in the autumn to shield the flowers from early frosts, as the blooms continue to open throughout the months of October, November and a part of December. Mats and scrim drawn over a skeleton lath arrangement will form sufficient protection as a rule. AVON.

THE FIFTY BEST MORAINE PLANTS.

THE selections of fifty best alpines which have appeared in recent issues have created so much interest that I am now asked to give my personal list of fifty best plants for the moraine. The conditions of this selection are different from those of the last. In the first place, the question is far less general and the experience much less diffused, complete, and of old standing. Each moraine, like each gardener, has its special favourites, and the pet results of one moraine are not necessarily those of its neighbour across the wall. Again, the moraine being a very special affair, there is no need in this choice to trouble about "utility" plants, such as the Aizoon Saxifrages, which will grow anywhere. I mean to allow myself, in fact, an orgy of special treasures, in repayment for the cruel excisions I was forced to make in the general list; since it is for these that the moraine exists. As to the conditions of this, let me postulate a moraine of some three parts chips to one part good compost of peat, leaf-mould and sand (a larger percentage of soil than I have suggested hitherto), watered by a subterranean perforated pipe some 12 inches to 15 inches down, but sharply drained; for more and more do I grow to distrust cemented bottoms, unless, indeed, your slope is very specially rapid and your climate of a very specially Saharan torridness. And in this mixture, then, I will allow myself a free hand in choice, and advise my friends to follow it without fear of disappointment if they succeed. But it must be remembered that my selection is purely personal, haphazard and incomplete. Many things are omitted simply as untried, such as Dryas; and my own blank failure hitherto with most Gentians and Potentilla nitida in the moraine is very likely a mere matter of conditions—a little soil the more, or some question of treatment—though I confess to doubting Gentians as a family for the moraine, despite the fact that one of my G. Clusii is now wearing a beautiful flower. But in one place very often I think a given plant enjoys moraine, and yet refuses to put up with another apparently like it somewhere else, where, perhaps, the conditions are not precisely such as to suit it. It was some time before any of my moraines suited Dianthus neglectus, which forms huge, grassy masses in open and rather inferior soil here.

Name.	*Height. Inches.*	*Colour.*	*Date of Flowering.*	*Soil.*
Androsace alpina (glacialis)	1	Rose white	May–June	Non-calcareous, soft, cool and rich
A. primuloides	4	Pink	,,	Ordinary
A. villosa	3	Pearly white	,,	,,
Anthemis Aizoon	5	White	Summer	,,
Asperula Athoa	3	Pink	,,	,,
Artemisia splendens	4	Silver leaves	,,	,,
Aster alpinus	6	Purple	,,	,,
Campanula alpestris (Allionii)	3	,,	June	Non-calcareous
C. cenisia	1	Electric blue	Summer	,,
C. excisa	3	Violet	Late summer	,,
C. pulla	6	,,	,, ,,	Calcareous
C. Raineri	3	Blue	,, ,,	,,
C. Zoysii	4	,,	,, ,,	,,
Cyananthus lobatus	4	Electric blue	,, ,,	Ordinary
Delphinium nudicaule	6	Scarlet	June	,,
Dianthus alpinus	4	Rich rose	,,	Calcareous
D. arvernensis	3	Pink	,,	Ordinary
D. Freynii	1	Pink white	,,	,,
D. neglectus	6	Fiery rose	,,	Ordinary or non-calcareous
D. glacialis	4	Rose	,,	Non-calcareous
D. sylvestris	8	,,	,,	Ordinary
Eritrichium nanum	1	The blue of blues	,,	Non-calcareous, rich, cool and light
Iberis petræa	2	White	,,	Ordinary
Leontopodium alpinum (Flannel-flower)	6	Silver white	All the summer	,,
Linaria alpina	3	Violet and gold	,, ,,	,,
Lithospermum Gastonii	4	Blue	Summer	Very calcareous, nearly pure lime-rubble
Mertensia primuloides	6	Blue to amethyst	,,	Ordinary, cool
Morisia hypogæa	3	Yellow	Early summer	Ordinary, dry
Myosotis rupicola	3	Blue	June	Ordinary
Papaver alpinum	6	White to rose	All the summer	,,
Petrocallis pyrenaica	2	Whity pink	June	Calcareous
Primula intermedia	4	Rosy lilac	April	Ordinary
P. spectabilis	4	,,	April–May	,,
Polemonium confertum mellitum	6	White	Summer	,,
Ranunculus alpestris	4	,,	All the season	Damp, calcareous
R. glacialis	6	White to red	June	Damp, non-calcareous
R. parnassifolius	4	White	May	Damp calcareous
R. Seguieri	5	,,	,,	Drier calcareous
Saxifraga Burseriana magna	3	,,	February–March	Ordinary or calcareous
S. cæsia	4	,,	June	,, ,,
S. Burnatii	6	,,	,,	,, ,,
S. Faldonside	4	Yellow	March	,, ,,
S. Grisebachii	6	Red	March–April	,, ,,
Silene Elizabetha	3	Rose red	Summer	,, ,,
S. Hookeri	5	Rose pink	June	Ordinary
Soldanella pyrolæfolia	5	Lilac	March–April	Damp, rich and silty
Thlaspi limosellæfolium	4	,,	May–June	Ordinary
Veronica canescens	1¼	Blue	All the summer	Fine and sandy
Viola cenisia	4	Violet	Summer	Ordinary
Wahlenbergia Pumilio	3	,,	Early summer	Calcareous

Ingleborough, Lancaster REGINALD FARRER.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Pæonia arborea La Lorraine.—A remarkable hybrid Tree Pæony, said to have originated from the crossing of P. Moutan with P. lutea, MM. V. Lemoine et Fils, Nancy, being the raisers. The flowers are very full and double, somewhat formal in outline, five inches or so across, and of a buff tone, passing to yellow. The bases of the petals low down are of a reddish colour. The foliage is glaucous. Exhibited by Messrs. J. Piper and Sons, Bayswater.

AWARDS OF MERIT.

Heliotrope The Speaker.—A dark-coloured, richly-perfumed variety with large trusses of flowers. From Mr. P. Ladds, Swanley.

Rose Miss Flora Mitten.—A perfectly single-flowered Rose of great charm, by reason of the large saucer-like flowers of pinky white, which appear in big clusters on greenish, almost thornless growths. The foliage, too, is large and hard-looking. A good climbing Rose. From Mr. J. Elliott, Hassocks, Sussex.

Rhododendron Rose Queen.—The name is somewhat descriptive of a beautiful variety, which is also very freely flowered. The flowers are drooping, warm rose pink without and paler within.

Rhododendron Wightii.—A beautiful variety with creamy yellow bell-like flowers. The foliage is green above and fuscous brown below, save for the midrib, which is pea green. Both came from Miss Clara Mangles, Littleworth, Seale, Surrey.

Aster Purdomii.—The plant, which is 9 inches high, is a recent introduction from China, the

florets coloured a lilac mauve. From Messrs. J. Veitch and Sons, Limited, Chelsea.

Thunbergia Gibsonii.—A remarkable plant from East Africa. The flowers are self-coloured and of a rich, refined orange tone. Of apparently perennial duration, the plant would appear to be a ground creeper, though would probably climb with age. As shown, flowers or buds were appearing from almost every leaf-axil, the pedicels being about six inches high. The leaves are almost rhomboid, lobed and somewhat hairy. From Mr. William Van der Weyer, Corfe Castle, Dorset.

Carnation Lady Shrewsbury.—A very full, handsome pink-flowered variety that is sure to find many admirers. From Messrs. William Cutbush and Sons, Highgate, N.

Tulip Massenet.—A very handsome Darwin variety, rose pink coloured externally and flesh-tinted within. It is a beautifully shaded flower, cream and pink, pleasingly associated, and in fine contrast with the electric blue and green coloured base. From Messrs. Bath, Wisbech.

NEW ORCHIDS.

New Orchids to gain awards of merit were Brasso-Lælio-Cattleya Veitchii The Dell, from Baron Bruno Schröder; Lælio-Cattleya Fascinator × Mossiæ, sent by Sir Trevor Lawrence; and Odontoglossum Phœbe splendens, from Messrs. J. and A. McBean.

The foregoing were shown before the Royal Horticultural Society on May 14, when the awards were made.

THE FRUIT GARDEN.

SPRAYING FRUIT TREES.

THE month of May is an important period to the fruit-grower, who has many enemies in the shape of insect pests to contend with. Having already seen the effect of winter spraying for the removal of moss and lichen from the trees, as well as the diminution of Psylla or Apple-sucker by the free use of lime and salt before the blossoms unfolded, I would like to advise those who have in the past been troubled with Apple scab that they need not now have their fruit disfigured by this fungus if they will but take the trouble to spray with Strawsonite, commonly known as Bordeaux mixture, at the rate of 15lb. of Strawsonite to 100 gallons of water. This spraying should take place directly the blossoms fall. Last year I commenced on May 14 with this mixture. Should the trees be affected with winter moth caterpillar, arsenate of lead can be used in conjunction with Strawsonite, thus saving the trouble of a second spraying. To 100 gallons of cold water add 10lb. of Strawsonite and 3lb. of Strawson's Swift Arsenate. The arsenate of lead is procurable in paste form. This should be dissolved first in a small quantity of water, adding it afterwards to the bulk when thoroughly dissolved. If the trees are carefully sprayed, Apple scab will be thoroughly exterminated, and I think all will agree, if this is so, that one of the greatest pests the Apple-grower has to contend with will have been eliminated.

In some seasons, when the fruit begins to swell after the spraying, a coating of rust may be seen on much of the fruit; indeed, in some cases to an apparently alarming extent, so much so that the spraying is often blamed for this apparent disfigurement. Last year much of my fruit was so affected. I found, as time went on, this rust dispersed and did no harm, not even disfiguring the fruit. The cause is one of adverse weather at spraying-time. When cold and sunless, the tender skin of the Apple is affected by the chemicals used. If the weather were of a more genial character, this rust would not be perceptible. I take this opportunity to point out to the inexperienced what may happen, but to assure them no harm will follow, always supposing the materials used are of the best and the quantities recommended are not exceeded.

I never saw the trees so free from Psylla (Apple-sucker) as they are this season. Warner's King is profusely flowered, and this variety is one of the first to indicate the presence of this pest. On all the trees of this Apple I have not seen a single caterpillar as yet. If there is no sign of caterpillar, the arsenate of lead is not required. Simply use Strawsonite for the prevention of Apple scab (Fusicladium dentriticum). Cox's Orange Pippin is more delicate in its leaf tissue and is liable to be damaged by the ordinary strength of spray fluid beneficial to other sorts, therefore should not be sprayed with so strong a solution.

E. MOLYNEUX.

THE ROSE OUTLOOK FOR 1913.

So far as we in Mid-Sussex are concerned, the outlook for the coming Rose season is by no means black, and may be taken as about up to the average. We have lost but little wood through frost, and despite the only partial ripening of many varieties, the wood cut firm and promising down at the pruning point. I sometimes fancy we are more concerned about the fuller ripening of our Roses than we need be, and this seems more so since the advent of our Hybrid Teas, which do not mature their points of late growth so much as was the case with the older Hybrid Perpetuals. This is only natural when we consider that our present-day Roses consist largely of autumnal bloomers instead of summer flowerers only, as was the case of the majority before the advent of the glorious hybrids that are now more or less continuous right up to the advent of frost. In almost all cases this class of Rose matures its lower growth in a surprisingly good condition. One notes this soon after the second flowering growth has formed, and we generally have to cut back all of the third crop of growth, whether ripe or not. On the whole, our Roses are breaking evenly, and are not at all in a dangerously forward condition, especially when we take into account the remarkably mild season experienced in this district.

Transplanted Roses are looking fairly well, and those moved early in the spring are as sound as any planted during late autumn. The stocks, too, put out for working upon next summer are looking even, a few that were not earthed-up being the worst. Buds inserted in 1912 are up to the average, except in the case of a few varieties on standard Briars, which seem bound, much the same as we often find them after a severe winter. In this case we shall leave more young wood beyond the Rose-buds than usual for a time to encourage their breaking.

A. P.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SWEET-SCENTED PLANTS FOR NARROW BORDER (*Miss M.*).—You could not do better than plant Stocks of several sections to give a succession of flowers, with white Tobacco at the back and a bordering of the Night-scented Stock for the front. Of the first two you have to secure plants, while of the third you might still make a sowing where it would remain for flowering. You do not give the width of the border; hence we cannot gauge how much or how little may be required.

LILIUMS FROM SEED (*Redpits*).—Seeds of Lilium giganteum, and other kinds of Lilies also, are often very erratic in the way they germinate, especially if the seeds have been allowed to dry at all before sowing. They sometimes vegetate in six or eight weeks, and at other times lie in the soil for twelve months before any growth is noticed. It is not necessary to provide any considerable heat; an ordinary warm greenhouse will furnish all that is required. Hakea eucalyptoides will succeed in either a cool or a warm greenhouse. The seeds take from two months to six months to germinate. Sandy peat should be provided for this plant.

TREES AND SHRUBS.

INJURY TO MAGNOLIAS (*Shirimark*).—We think the Magnolias must be exposed to cold draughts. There is no fungus or insect upon them to account for the browning of which you complain.

CISTUS CUTTINGS (*Redpits*).—Cuttings of various kinds of Cistus should be taken in July. They should be made about three inches long and be inserted in pots or beds of sandy soil. If in pots, a good watering should be given, and the pots should then be plunged in fibre in a close, cool frame. Subsequent watering must be done very carefully, and the frame should be opened for half-an-hour or so each day to allow superfluous moisture to dry up. During bright sunshine a blind must be placed over the glass. If the cuttings are to be inserted in a bed, a bed of soil should be made up in a cold frame and the cuttings inserted 1 inch to 2 inches apart. A good compost consists of two parts good loam, one part leaf-mould and one part silver sand. The frame must be kept close until roots are formed, after which time air must be admitted freely. Young plants should be potted singly in small pots until they can be put out in permanent places, for they do not transplant well from the open ground. As a rule, cuttings root better in a cool than in a heated frame.

IS IVY POISONOUS TO OTHER PLANTS? (*Clossy*).—We have never had experience of Ivy roots being poisonous to other plants, and have frequently associated Ivy with other shrubs without noticing that anything unusual has happened to plants in the vicinity. In some gardens it is a common practice to combine Ivy with some other climber, such as Clematis Jackmanii or Jasminum nudiflorum, on walls, while Ivies of shrubby growth are constantly mixed with other shrubs in shrubberies. We do not think for a moment that the Ivy of which you speak caused the Rhododendrons to become unhealthy, neither is it necessary to take the precautions you suggest for shutting the roots of the Ivy out from the Rhododendron-bed—that is on account of poisonous properties; but it might be advisable to cut the Ivy roots back to stop them from robbing the Rhododendrons of food material. Hypericum calycinum forms a good evergreen border plant for a shady place, but to keep it in good condition it should be cut back fairly hard each spring. There is no really good evergreen, self-clinging climber other than Ivy, but a good deciduous one is Hydrangea petiolaris. The latter climbs in the same way as the Ivy, by means of aerial roots. If Ivy were really poisonous to tree and shrub growth, it would kill trees and shrubs in woods, for there are woods which are practically covered with an undergrowth of common Ivy. In gardens it is a common practice to clothe the ground beneath trees, where grass will not grow, with Ivy, and neither one harms the other. We know such coverings where clumps of Daffodils have been growing among the Ivy for the last twenty years.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Rock Garden Competition.—We would remind our readers that June 1 is the last day for sending in photographs of rock gardens for our competition, full particulars of which have appeared in many previous issues.

The Chelsea Show.—We wish to thank all those readers who have so kindly sent us letters of appreciation relating to our Special Double Number published last week. It was only by the aid of thoroughly up-to-date printing machines and a band of enthusiastic helpers that we were able to have copies at the show by 3 p.m. on Wednesday. Some of the photographs reproduced in that issue were not taken until 12 noon on the Tuesday.

Record of the International Horticultural Exhibition.—Now that a year has elapsed since the great International Horticultural Exhibition was held at Chelsea, it is not unreasonable to ask when the official record, of which so much was heard last year, is likely to be published? It would almost seem that the muddle which characterised many of the arrangements of an otherwise successful show is retarding the appearance of this long-promised volume.

Honour for Mr. R. A. Rolfe.—We are pleased to learn that the French Académie Internationale de Géographie Botanique has awarded to Mr. R. A. Rolfe its Scientific Medal in recognition of his work among Orchids. In addition to his valuable work in the Kew Herbarium, Mr. Rolfe has edited the *Orchid Review* since its commencement in 1893. The honour is conferred upon Mr. Rolfe at a fitting time, as it marks the coming-of-age of the *Orchid Review*.

Tulip Disease.—This is different from "fire" referred to on page 249 last week, and may be known by the stem decaying at or below the ground-level, so that it parts company with the bulb with the gentlest pull. Black spots, varying in size from a pin's head to a small Pea, are present on the bulb under the outer covering, and on the bit of stem left adhering to it. All the plants must be at once rooted up and burnt, and the ground not used for Tulips for at least two seasons.

Home-Grown Cascara Sagrada.—In recent years attention has been called to the possibility of this valuable laxative, prepared from Rhamnus purshiana, proving a remunerative culture in the British Isles. The bark collected from home-grown trees has been shown to possess medicinal properties indistinguishable from those of American cascara. Mr. W. J. Bean gives some interesting facts concerning the possibility of growing Rhamnus purshiana on a commercial basis in this country in a recent issue of the *Kew Bulletin;* but in his opinion, in view of the prices at present obtainable for cascara sagrada, it scarcely seems likely that it would prove a paying crop.

Testimonial to the Rev. W. Wilks.—We understand that the testimonial subscribed to by Fellows of the Royal Horticultural Society as an appreciation of Mr. Wilks' twenty-five years' work in connection with the Royal Horticultural Society was formally presented to him at his residence on Saturday last. We believe the amount subscribed exceeded £600. As we have already pointed out, Mr. Wilks has done yeoman service for the society for more than a quarter of a century, and its present flourishing condition is largely due to his enterprise and energy.

A Beautiful Bulbous Plant.—One of the most interesting and beautiful plants in the outdoor garden just now is Habranthus pratensis, a rather rare native of Chili, that many fail to grow really well. It was shown in good condition by a few exhibitors at the Chelsea Show last week. The flowers, which resemble those of a miniature Amaryllis, are vivid scarlet with a greenish yellow throat, and are borne on stems 1 foot to 15 inches high and from four to six on a stem. We have a little colony doing well on a south border, the soil being good, rather rich loam. Sun after flowering appears to be one of their principal requirements.

Roses with Beautiful Stems and Foliage.—Although Roses have not yet opened their flowers in many localities, the beds are not devoid of interest, for the young stems and foliage of many varieties are exceedingly charming. Take that beautiful Rose Grüss an Teplitz. Its dull crimson, mottled green leaves form a picture of rare beauty when kissed by the morning sun. Then note the glossy green of American Pillar, the deep crimson of Marquise de Sinety, the pale crimson and green of Gustave Regis, the blood red shoots and spines of White Killarney, and the red stems contrasting so well with the green leaves of Miss Cynthia Forde. All are beautiful in their way, and we hope this phase of Rose glory will receive its due recognition in nurserymen's catalogues.

Forget-me-not in the Pleasure Grounds.—The value of the beautiful blue-flowered Myosotis alpestris, as cultivated in masses in the pleasure grounds at Kew, is worth considering. It is comparatively little trouble, self-sown seedlings coming up freely in favourable positions. Very pretty effects are obtained when used as a groundwork in borders and large beds of shrubs. One particularly effective combination is the pale mauve pink Tamarix tetrandra, with the Forget-me-not as a groundwork. Beds or groups of the following shrubs, which are all pruned fairly severely in spring, because they flower in late summer and autumn, may be carpeted with Myosotis: Tamarix pentandra, Hydrangea paniculata, Spiræa Aitchisonii, S. Lindleyi, Buddleia variabilis and varieties, autumn-flowering varieties of Ceanothus and Hypericum Henryi. Self-sown seedlings, or plants sown where they are to flower, as a rule give a better carpet than when transplanted.

CORRESPONDENCE.

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

Carnation Lady Ingestre.—We were exhibiting at the meeting of the Royal Horticultural Society held on May 14 a new seedling Carnation, for which we received an award of merit. We find

MECONOPSIS DELAVAYI, A NEW AND RARE SPECIES WITH IMPERIAL PURPLE FLOWERS, SHOWN AT CHELSEA.

that by an error the bloom was named Lady Shrewsbury, which was incorrect; the name of the Carnation should have been Lady Ingestre.—William Cutbush and Son.

The Colour of Aubrietias.—Many as are the varieties of this good spring flower, I think we have not yet arrived at the very best type of colour for general gardening. It may be that, being unable to visit nurseries and private gardens, I am not in a position to judge; but it appears to me that the tendency with seed-growers is to push them too much towards reds and very strong red purples. We seem to want a type of good middle strength of colour, but of the cooler rather than the hotter class; that is to say, inclining to the colour of lavender in the lighter shades and to that of violets in the darker. I fully appreciate the glorious colour of the variety Dr. Mules and the fine bloom of the one named Lavender; but a whole bank of Dr. Mules would be dazzling and yet a trifle monotonous, whereas a bank of the colour I have in mind, with a small drift of Dr. Mules or any one of the strong purples, would be not only more interesting, but, as I venture to think, incomparably more beautiful. The fine variety Lavender is a little spoilt by the white eye, which cuts up the mass, and as it is a plant that one wants to use in quantity, it would be desirable that the whole colour of the flower should be as even as possible.—G. Jekyll.

Aphis on Spruce.—Complaints from widely different districts are heard of the attack upon Spruce by the green fly (Aphis abietina). It is a fairly well-known pest, appearing here and there when conditions favour development, necessitating sometimes spraying with insecticide. This spring, however, the attack is much more severe than usual, every leaf on some trees of Picea pungens glauca, the Blue Spruce, turning brown and dropping off owing to punctures by the pest. By the side of the lake at Kew damage is being done, in addition to this plant, to the Sitka Spruce, P. sitchensis, P. hondoensis, the common Spruce, P. excelsa and varieties, and it is also spreading to the rare P. morindoides. The only suggestion advanced so far to account for the widespread destruction this year is the unusually mild winter, there not being sufficient frost to destroy the eggs laid in autumn. In Ireland, also, considerable damage is reported. Careful watch should be kept by everyone having charge of Spruce, whether the trees are few or many, as there is no outward appearance of the pest till the damage is done. It belongs to the same family as the common green fly of our greenhouses and gardens (Rophalosiphon Dianthi), but is much more destructive. Vigorous spraying with insecticide is necessary to check its spread. We are using a mixture of 2lb. of Quassia chips, 4 pints of paraffin, 1½lb. of soft soap, and sufficient Tobacco water to colour it brown, to 36 gallons of water.—O. A.

The Fifty Best Alpines.—In Mr. Smith's article on Saxifraga burseriana of your issue for May 17, page 238, he refers to the setacea group of Phloxes, which I did not include among my first fifty plants. My experience does not lead me to think that the chalk mentioned would improve our soil here to keep the plants from burning. I was something in the position of Mr. Farrer when suggesting my first fifty plants, having a large number over, which had to be reduced to fifty, and that was the reason of my leaving out this most beautiful section of Phloxes, as I have never seen them more beautiful than this year. The wet and showery time has just suited them. We have here some thirty large masses of these (in variety) from 1 yard to 2 yards across each plant, and they present a gorgeous display surrounded by Phlox reptans, Lithospermum Heavenly Blue, Aubrietia Dr. Mules and Phlox divaricata Laphamii. To see one of these grand masses burnt just when in full bloom is enough to make one weep. By some, plants are more there by name than anything else, and if it is a small plant, such as just turned out of a 3-inch pot, this burning is hardly noticed. Another great point of Phlox reptans is that it is in flower from April to October, and, after all, it is the array of flowers that creates enthusiasts, as take, for instance, the interest evinced in the flowers at any great show in looking over the great trade exhibits, and a little success for a start is better than so many failures.—G. F. Hyland, *The Gardens, Ashby St. Ledgers, Rugby.*

Primula cockburniana.—Mr. Arnott raises an interesting point in the issue of The Garden for May 10, page 229, when he asks how far is it perennial. The article throughout is brimful of interest to lovers of hardy flowers, and this Primula, which is in the eyes of some the most beautiful for massing, is worthy of due consideration and collected knowledge. The plant is certainly a perennial, but, unfortunately, a difficult one, and the question naturally arises in one's mind: Is it wise to consider it a perennial or not? I say "No"; but give the world to understand that it is a biennial, and there will be no disappointments. Grown as a biennial, sow the seed as soon as ripe, prick off the seedlings in a sandy compost, and winter in a cold frame. Pot them singly in 3½-inch pots, when growth commences in the spring, in a sandy loam with the addition of a little leaf-soil and old cow-manure, and plant out in May in a well-drained bed in a half-shady position. Ordinary garden soil, with the addition of a good dressing of well-seasoned cow-manure and a liberal quantity of grit well mixed through the soil, forms a nice rooting medium, and in the autumn, before the leaves fade, top-dress with good loam, with one-third very coarse sand added. P. cockburniana is quite hardy, but damp it will not stand; therefore a deep and

CUPRESSUS LAWSONIANA FLETCHERI, A NEW DWARF SHRUB FOR THE ROCK GARDEN.

perfect drainage is the greatest essential in retaining a "perennial" habit, coupled with a position that stands dry in winter. Having grown this beautiful Primula in fairly large quantities since its introduction, I must confess that it has been a failure as a perennial.—D. L., *Sheffield.* [Our correspondent sends a photograph showing a splendid colony of this Primula, but, unfortunately, it was not suitable for reproduction.—Ed.]

How to Grow Ourisia coccinea.—This troublesome subject is doing well and flowering in a rock bed at Terregles, Dumfries, the residence of Mr. C. E. Galbraith, where alpines are doing admirably under the care of Mr. William Hutchinson, the gardener, and his staff. I know of a few gardens in this locality where it thrives well, notably the garden of General Stewart at Carruchan, Dumfries, where the Ourisia has grown and flowered well for years. At Terregles it is cultivated under entirely different conditions, being well above the ordinary level on a rock bed on the top of a low retaining wall, and in soil composed of about eighteen inches of ashes below, with about four inches of road grit and two inches of loam above. At Carruchan O. coccinea grows on the level, and in most places where I have seen it thriving it has been in a lower rather than in a higher part of the garden. It is just one of the plants about which it is impossible to dogmatise respecting its treatment, and those who wish to succeed with it will do well to try it in different positions and not be disheartened by a few failures. What is an ideal place according to the books is not always so in actual practice.—S. Arnott, *Dumfries.*

A Plea for Perfume.—I am most interested to find that at last the lack of perfume in so many of our otherwise admirable modern flowers is beginning to be commented on in print. It has long been lamented by genuine amateurs, and more particularly by those whose lot it is to live in towns. We continually find so-called Sweet Peas that are neither sweet nor shapely, and Roses that "by any other name" *should* "smell as sweet," but that are a snare and delusion in this respect. And now, with deep dismay, I read of an award of merit given by the Royal Horticultural Society to a Wallflower, as mentioned on page 239, issue May 17, lacking in fragrance. Words fail me (and it is as well they do, for if I *could* express my sentiments, you, Sir, would certainly have to run your blue pencil through them). As the gentle Elia owned he had "no ear," so it would seem that modern florists have "no noses"! I do most sincerely hope that now their attention is being drawn to the matter, our professional florists will amend their former naughty ways, and, ceasing to be obsessed by the American craze for mere size and conspicuous colours, they will restore to our gardens flowers with their former precious charm of fragrance.—Anne Amateur.

FORTHCOMING EVENTS.

June 3.—Royal Horticultural Society's Show. Lecture at 3 p.m. by Mr. Spencer Pickering on "Grass and the Toxicity of Soils." Scottish Horticultural Association's Meeting.

June 5.—Linnean Society's Meeting.

June 7.—Société Française d'Horticulture de Londres.

June 9.—United Horticultural Benefit and Provident Society's Meeting.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATES.

Nephrolepis exaltata Willmottæ.—This remarkable variety, without doubt the least exalted of a wonderful series of forms, is characterised by great density, a low, spreading, almost prostrate habit, and quite diminutive fronds. It has already received an award of merit. From Messrs. May and Sons, Edmonton.

Cupressus lawsoniana Fletcheri. — Promises well for the rock garden. It is a dwarf, compact-growing variety of the C. l. erecto-viridis type, but of a greyish glaucous colour. A neat plant of distinction and merit. See illustration page 274. From Messrs Fletcher and Sons, Chertsey.

ROSCOEA CAUTLOIDES, A RARE SPECIES, SHOWN BY MESSRS. BEES AT CHELSEA.

Meconopsis Delavayi. — Probably the most unique hardy plant novelty of the season. Four plants were shown less than six inches high, having roughish hairy entire lance-shap d leaves, and cupped flowers of almost imperial purple with rich plum purple shading. The cluster of golden anthers affords a fine contrast. See illustration page 274. From the Botanic Gardens, Edinburgh.

AWARDS OF MERIT.

Campanula Stevensii nana.—The tufts, less than two inches high, as shown by Mr. Reginald Prichard, Wimborne, Dorset, crowded as they were with large pale blue sub-erect bells, were idolised by all lovers of alpine plants. It is quite a gem.

Pentstemon Davidsonii.—A miniature-growing species from the Rocky Mountains, having greyish, nearly ovate, slightly-notched leaves, and a sub-shrubby habit. The flowers are 1½ inches long and of rose scarlet colour. The flowering plants, as shown, were 4 inches high. From Mr. Clarence Elliott, Stevenage.

Auricula William Smith.—A fine green-edged variety of unusual vigour. The plant carried a superb truss of flowers. From Mr. J. Douglas, Great Bookham.

Saxifraga Grandfieldii.—In all probability a seed sport from S. Aizoon lutea, having flowers of snowy whiteness. The plant shown was nearly a foot high, and had been raised by the exhibitor at Hayes. From Sir Everard Hambro, K.C.V.O., Hayes (gardener, Mr. J. Grandfield).

Calceolaria Clarefield Gem.—The flowers are bronze and yellow, the plant a free bloomer and nearly three feet high. From Mrs. Litkie, Pinkney's Green.

Rose Nancy Perkins.—A small-growing double white flowered variety of the Polyantha set. The plants as shown were not more than 9 inches high. Exhibited by Messrs. T. Perkins and Sons, Drapery, Northampton.

Rose Irish Fireflame. — A single-flowered variety, characterised externally by a wonderful tone of coppery orange colour.

Rose Mrs. Campbell Hall (H.T.).—A shapely and beautiful Rose of blush pink colour for the most part, with almost salmon-tipped centre. These were from Messrs. Alexander Dickson, Newtownards.

Rose White Tausendschon.—The name is descriptive and good, and everybody who knows the original will welcome this pretty blush white sport of it, which is in every way good. From Messrs. William Paul and Sons, Waltham Cross.

Begonia Lena.—The flowers are deep crimson scarlet and freely produced in a pendent habit, which fits it for basket-work. From Messrs. Blackmore and Langdon, Bath.

Roscoea cautloides. — A distinct-looking plant with yellow flowers and long, cylindrically-inclined tuberous roots. It is perhaps more quaint and distinct than pretty. From Bees, Limited, Liverpool.

Sarracenia Brucei.—A very distinct and beautiful plant, having pitchers nearly two feet high. Of true trumpet shape, expanding in size as the apex is reached, the plant is remarkable for the brilliant colouring and venation of the lid and adjacent parts. These are handsome indeed. From Mr. A. J. A. Bruce, Chorlton-cum-Hardy, Manchester.

Aster Falconeri. — It perfectly hardy and a true perennial, this will prove welcome. The florets are coloured violet blue, the flower-heads about four inches across. From Messrs. Barr and Sons, Covent Garden.

Cytisus andreana prostrata.—The varietal name appears strange when standard plants of

4 feet high are shown and a drooping habit revealed. The flowers are coloured yellow and brown. From Mr. L. R. Russell, Richmond.

Styrax Wilsonii.—Here is a delightful Chinese plant endowed with not a little of the grace and charm characteristic of its tribe. Only a small pot plant was shown, the lower branches having a lateral spread of 2 feet or more, from the under sides of which dainty tresses of starry, nearly pure white flowers dangled from short pedicels. The habit is elegant indeed. Shown by Miss Willmott, V.M.H., Warley Place, Essex.

Lonicera tragophylla.—The yellow, tubular-formed flowers are fully 4 inches in length, and even on the small plants of 2 feet high, as shown, were present in goodly numbers. Exhibited by Messrs. James Veitch and Sons, Limited, Chelsea.

The foregoing awards were made at the Royal Horticultural Society's Exhibition at Chelsea.

THE FLOWER GARDEN.

GROUPING FLOWERS FOR COLOUR.

THE repeated requests for information and suggestion that have recently reached the Editor are a proof of the ever-increasing interest in the subject of grouping and arranging plants for colour effect. It is a significant sign of advance in the character of the aims of those who love their gardens. No one who has seen flower-borders or other garden spaces well arranged for colour effect would ever go back to haphazard planting. A garden may contain an ample supply of the best plants, and the gardener may be the most able of cultivators; but if the plants are not placed to good effect it is only like having the best paints from the best colourman. In either case, it is only the exactly right use and right placing that will make the picture, and, in the case of the flowers, show what they can really do for our most complete enjoyment.

It is proposed to give a series of short notes suggesting how this may be done, and, for the sake of those who are beginners in this kind of arrangement, to name examples of good grouping that can easily be grasped and followed. Thus, for spring flowers (for greater clearness it will be convenient to take the groupings in four sections), each group or section should merge imperceptibly into the next, and, whatever the shape of the spring garden may be, it would be well to keep the sequence of colourings in the order here given:

1. Myosotis dissitiflora, double Arabis, pink Tulip Rosa Mundi or Cottage Maid, white Primroses, white double Daisy, Tiarella cordifolia, white Tulip Nelly (short, early) and White Swan (taller and later); Veratrum at back.

2. Palest Aubrietia, again double Arabis, Phloxes amœna, Nelsoni, stellaria and divaricata, Corydalis ochrolenca, Alyssum, Tulipa retroflexa, palest yellow Wallflower, yellow Primrose, Tulips Chrysolora (early) and Golden Crown (later), Doronicum plantagineum; at back Sulphur Crown Imperial, Solomon's Seal, Veratrum and Myrrhis odorata.

3. Orobus vernus, purple Wallflower, Aubrietia (middle and deep purple), purple Tulips, especially Rev. H. Ewbank (pale, moderate height) and the taller double Bleu Celeste and the fine single Morales; dark purple Honesty, and again Solomon's Seal and Myrrhis. A few white Tulips.

4. Tulips Thomas Moore, La Merveille and gesneriana aurantiaca (they are named in the right succession for season and height, the first-named being the shorter and earlier); brown Wallflower in plenty, both tall and dwarf. At back Berberis Darwinii and one or two of the red-leaved dwarf Maples; a drift or two of scarlet Tulip, beginning with such as the early Artus and ending with the splendid tall gesneriana major. Near the front, between the drifts, some of the reddish-foliaged Heuchera Richardsoni.

These suggestions suppose a space of garden ground that can be given to the spring flowers and is not required for later gardening; for many of the best spring flowers, and all the plants of large foliage, such as Veratrum, Solomon's Seal and Myrrhis, that so greatly enhance the appearance of the flowers, have to remain some years in the ground.

It will be seen that several of the groups, or main parts of groups, are in close colour harmony. The comparatively slight difference of related colouring gives that most important quality of *gradation* that is a prime necessity in any good picture, while the fairly large spaces of each kind of colouring, combined with, and inseparable from this gradation, give an effect of richness and splendour such as cannot be obtained by any one unbroken mass of colour, however brilliant that colour may be in itself.

G. JEKYLL.

WHITE HONESTY IN THE WILD GARDEN AT HALLINGBURY PLACE, BISHOP'S STORTFORD

SOME GOOD BUT COMMON GARDEN PLANTS.

THERE are some good but common garden plants whose very commonness forms a bar to their cultivation. These, and some others not mentioned below, I have long made a point of finding room for, not, perhaps, in every case every year, for some of them are apt to die out and need reintroducing, and anyhow in these days, when so many good things clamour for recognition and the limits of space are a consideration, it is no loss to allow plants to go out of cultivation for a time, that others may have a turn. At the time of writing,

Honesty is one of the handsomest of flowering plants, not the common dirty lilac variety, but a deep purple crimson one which makes an effective blotch of colour. The white flowering Honesty is also desirable, for vase furnishing more especially. All the seminal variations produce nice cutting material when the seed-vessels are about half grown; and finally, as everybody knows, after the seeds have dispersed, the whitened dissepiments are indispensable for decorating. These give the plant its quaint appellations of Honesty, Silver Plate and Money-in-both-pockets. Honesty possesses the happy constitution of thriving under the shade of Apple and other trees, and in some soils becomes somewhat of a weed, needing merely to be thinned to afford a sufficient number of specimens. It is excellent for the wild garden, grouped as shown in the above illustration.

The Red Valerian (Centranthus ruber) is like Honesty in respect of there being bad and good varieties. The finest is nearly crimson-flowered, the common wild form being of a colour not at all to be commended, and perhaps impossible to associate harmoniously with other flowers. There are both white and nearly white varieties. As a border plant it possesses the invaluable property of flowering from May till November. It is particularly suitable for wall culture. Many years ago

I introduced it on the garden walls by means of seeds mixed with soil scattered liberally on top of the wall. The plants from these and their progeny give bright splashes of colour for a longer time than any other plant. Usually known as the Red Valerian, the light variety goes by the names of Pretty Betsy and Delicate Bet, and the dark is Bouncing Bet.

The Foxglove is, perhaps, next to the Hollyhock and some of the Verbascums, the handsomest of hardy flowering plants and the least difficult to grow. In this case, too, it is essential to be careful to grow only first-rate forms. Personally, I like the pure white better than any of the numerous coloured kinds—that is, for border furnishing. For others there is usually plenty of room among shrubs, and, really, Foxgloves never look better than when rising on the edge of a shrubbery, with the dark foliage behind as a setting. You need merely scatter the seeds at this time of year in the less-congested spots in order to obtain colonies, which afterwards will usually take care of themselves. Foxgloves, though biennials, do not die away after flowering, but if given good treatment they produce spikes 7 feet or 8 feet in height, with secondary ones of lesser altitudes, and if not allowed to produce seeds the same plant will live for several years. At the same time, young plants give the best results. I get nice effects with plants growing close to the base of walls. Foxglove is one of those names which have given unending trouble to philologists. On the Borders it used to be called Foxter, and in a copy of Fuchius' "Historia Plantarum" a MS. note has "Fox tre" for the Scots name. There are numerous other pretty names.

Thistles, as a rule, are not permitted much consideration by garden folk, but there are Thistles and Thistles, and a very handsome vegetable indeed is the Milk Thistle (Silybum marianum). In good soil it grows 6 feet in height and almost as much through, but one must take the precaution to sow the seed where the plant is to flower, as transplanting, if the plants grow at all, dwarfs them extremely. As well as possessing blotched foliage of much beauty, the flowers themselves are worth something. It is perhaps more adapted to the wild garden than to the kept parts of the grounds, but in any case high cultivation is imperative for the best results.

One of the prettiest of our native flowers is Succory, and though I do not advise the cultivation of this weed, I would like to say a word in favour of Endive, the flowers of which are essentially identical. They are of the same shade of colour as Mulgedium ruthenicum, but the plants are of a superior habit and not at all coarse, as that is. As many plants as are wanted for the mixed border may be planted in autumn, or they may be wintered in a frame, where they are not quite hardy, and planted out in April.

The Common Mullein, of which there is an improved variety, is a decorative plant not to be despised. It makes a desirable wall plant, but succeeds best near the base of the wall, though not necessarily growing in soil. Like some other biennials, it does best with the seeds sown where the plants are wanted to flower. The Mulleins are almost as well known under the generic name Verbascum. The genus includes effective border plants that produce stately flowering spikes from June to September. The Hoary Mullein, otherwise known as V. pulverulentum, is a striking plant, the stems and leaves of which are covered with a mealy white wool. The flowers are produced in panicles of bright yellow. A remarkably effective plant for massing in wooded places is Campanula latifolia. It needs no cultivation, and the seeds may be scattered over the ground selected for them.

Rue gives us tones of colour quite distinct from those of any other plant. It is easy to grow from seeds. Fennel is also worth growing for its unique colouring, and selected forms of the whitish shades of foliage of Wormwood are equally distinct. Clary ought to be grown for a like reason, the silvery bracts being quite a feature.

R. P. Brotherston.

A FINE SPECIMEN OF PITTOSPORUM EUGENIOIDES VARIEGATA IN THE GARDENS AT TREBAH, CORNWALL.

GARDENS OF TO-DAY.

TREBAH, CORNWALL.

TREBAH, the residence of C. H. Hext, Esq., is situated some six miles from the well-known and ancient town of Falmouth, the mansion standing in a prominent position at the top of a deep natural valley and looking down to that arm of the English Channel known as Helford Passage. The view from the front of the house, which is almost due south, is one of rare beauty, the valley, which forms the garden, being liberally yet tastefully clothed with subtropical vegetation, with a babbling stream and several miniature waterfalls running almost its entire length. Occasionally the patch of sea that is visible at the far end gives anchorage or fairway to some yacht or fishing-boat, and the whole surroundings have a peaceful, pleasant atmosphere such as we find in the Temperate House at Kew on a quiet day. Leading from the house to the valley or garden proper is a broad expanse of rolling greensward, on which light and shadow, caused by the surrounding trees, create a picture of enchanting beauty that would gladden the heart of the artist. The rather steep, sloping banks on either side of the valley are intersected with pathways, but so cleverly has the work been carried out that it is seldom one gets a glimpse of the paths, except in the immediate vicinity. Indeed, natural effect is aimed at throughout and successfully secured, harmony of colour and contour being a striking feature.

Rare Trees and Shrubs.—In common with most other Cornish gardens, those at Trebah are rich in choice trees and shrubs, Rhododendrons and Bamboos finding a happy home in the lower regions of the valley. On the eastern slope we were interested to find a large tree of Araucaria Bidwillii and a beautiful specimen of Podocarpus Totara, the trunk of the latter measuring nearly five feet in circumference at the base. Near by are two fine examples of Pinus insignis, probably two of the best in the country; while Embothrium coccineum, the Japanese Umbrella Pine, Sciadopitys verticillata, Acacia dealbata, Pittosporum eugenioides variegata and Drimys Winteri all do well on this side of the garden. Indeed, there are so many good shrubs and trees to be seen there that it is impossible to do more than mention a few. On the western slope vegetation is equally interesting. Near the uppermost pathway we were interested to find a magnificent bush of Corokea macrocarpa about ten feet high, a fine plant of Crinodendron Hookeri, a small but healthy plant of the rare Olearia insignis, Desfontainea spinosa, and a large tree, some twenty feet or more high, of Banksia quercifolia, which, at the time of our visit in mid-April, was bearing some of

its white, bottle-brush-like flowers. Near by was a truly magnificent bush of Coronilla Emerus, quite 20 feet in diameter, and just a mass of yellow, crimson marked flowers. Scrambling down a small grassy bank we found a fine plant of Daphne indica, the fragrant flowers of which we are only able to enjoy with the protection of a greenhouse. At the lower part of the valley the visitor suddenly comes upon an orchard, the grass of which is bejewelled with Primroses innumerable, to be followed later by myriads of Bluebells. Near this is a fine shrub of Viburnum lucidum, a great improvement on V. Tinus or V. Laurustinus, and keeping it company is a perfect specimen of Cupressus macrocarpa. This tree, which was planted when quite small by the head-gardener at Trebah, Mr. Thomas, is now quite 60 feet high, and the most beautiful of its kind we have ever seen. Nearer the mansion, and on the eastern slope, is Hydrangea scandens, which has climbed a Turkey Oak to a height of 30 feet and is still going on!

The Bamboos. — As already indicated, these form a prominent feature in the lower regions of the garden, and we saw some really remarkable specimens. One plant of Bambusa (Phyllostachys) Quilioi had stems 27 feet in height and over five inches in circumference, the plant itself at the base being about five feet in diameter. Mr. Thomas last year recorded the rate at which the canes of this Bamboo grew, and the particular cane that was under observation attained a height of 11 feet 10 inches in fourteen days, or nearly a foot a day! Phyllostachys mitis, with golden stems and paler golden foliage, and Bambusa Falconeri, 25 feet or more in height, were other plants that called for special mention, though there were many others of considerable interest.

Tree Ferns and Palms.—At the bottom of the lawn leading from the mansion, and slightly to the left, a trio of the beautiful New Zealand Tree Ferns, Dicksonia antarctica, create a pleasing and graceful picture, while in many parts of the gardens Trachycarpus or Chamærops excelsa finds a happy home. Near a trickling stream we found a fine plant of Phœnix canariensis, a Palm that is not nearly so hardy as Trachycarpus, but which was quite happy in its surroundings. Many young Palms are being planted out, and in a few years' time will be quite a feature of the gardens. Dracæna indivisa is also to be seen in many places, some of the plants having reached large dimensions. The New Zealand Flax, Phormium tenax, and its variegated form also thrive well in the lower parts of the garden, the huge clusters of sword-like foliage being perfectly in keeping with the surroundings.

The Water Garden.—This extends practically the whole length of the gardens, sometimes as a dancing rivulet, and anon as a placid pool wherein Water Lilies, Cape Pondweed, Arum Lilies and many other choice water plants find a happy dwelling-place. On the banks of the rivulets such plants as Primula japonica, choice forms of Marsh Marigold, lusty plants of Gunnera manicata and many other kinds are planted with a lavish hand, yet always with a keen sense of refined taste and with a view to natural effect. At the time of our visit these water-side plants were just making new growth, and later in the summer would doubtless provide a floral picture of great beauty. On the western slope, and near the uppermost end, is a dainty little nook with a pool of crystal-like water, the banks of which are lined with Ferns. Here we found Woodwardia radicans with fronds 10 feet long, so large, indeed, that it was difficult to recognise it as that species.

A VIEW IN THE GARDENS AT TREBAH, LOOKING TOWARDS THE SEA.

The Eastern Garden.—This is situated at the summit of the eastern slope of the valley, and is devoted to herbaceous and bulbous plants. Two of the most interesting plants that we found there were Datura sulphurea and D. sanguinea, both of which remain outdoors and flower all the winter. Over a little pergola at the end of this eastern garden Clematis indivisa was flinging its flower-bedecked shoots in profusion, happy in a climate that those who must garden in less-favoured districts would give much to secure.

THE ROSE GARDEN.

NEW DWARF AND CLIMBING POLYANTHA ROSES.

THE great value of this class as perpetual bloomers can be denied by none, but formerly we had scarcely any variety among the climbers that flowered more than once in the same season, or, if they did, the crop was so scanty as to be insignificant. Now, however, we seem fast approaching an ideal class of climbers that very much surpass the Hybrid Wichuraianas, inasmuch as they possess a good deal of the same slender and graceful growths, together with the continuous blooming of our well-known dwarf Polyanthas so generally used for beds and edgings.

This is a want freely expressed at the International Conference of Roses held during the large and world-wide represented meeting in London last year. Herr Peter Lambert has recently given us several of these climbers, as well as quite a number of improved dwarfs. On glancing over a select list before me, I note he is responsible for no fewer than eighteen of our best varieties among the dwarf or bedding section, and is now sending out several that are excellent climbers, with the inestimable advantage of being continuous bloomers.

We have now a good climbing sport of Mrs. W. H. Cutbush which cannot fail to become a standing favourite, as it seems to retain all of the great floriferousness of that splendid pink bedder. Climbing Cecile Brunner and White Pet are other good sports; and if we can secure more reliable and fixed sports from other dwarf-growing Polyanthas, our arbours, pergolas and pillars will be greatly embellished. The greatest drawback at present is the dearth of bloom after the first summer or late spring glut. There is no lack of autumnal bloomers as dwarfs; indeed, it is here that we have so much advanced of late; but we do sadly want more flowers upon our climbers and pillars late in the season.

At the aforesaid Conference a very happy and trite remark fell from Herr P. Lambert when he said we wanted to use Roses suitable for the purpose in the place of shrubs, which flower only ten to fourteen days in the year. So we do, and no one will be bold enough to dispute it. Not a few of our most charming Roses give us one good crop only, and, if we can improve such by continuation, the advance will indeed be great.

A few of the newer climbing Polyanthas that flower more or less continuously are Excellentz Kunze, creamy yellow and sulphur; Frau Anna Pasquay, dark carmine rose; Graf Zeppelin, deep coral red; Jkver D. Baronesse van Ittersum,

scarlet crimson on orange ground; Kommerzienrat W. Rautenstrauch, salmon pink and yellow; Marie Trenz, rosy crimson; with Climbing Mrs. W. H. Cutbush. Some excellent dwarf growers are Backfisch, salmon pink; Boskoop Baby, China rose; Cyclope, crimson and maroon, striped white; Ellen Poulsen, brilliant pink; Erna Teschendorf, resembling the brilliancy of Grüss an Teplitz, really good; Unser Peti, peach and rose; with George Elger, coppery and golden yellow. A. P.

THE ROSE AS A BUTTON-HOLE FLOWER.

THE Rose as a button-hole flower is becoming more and more popular. The city man has taken up the cult, and it is very refreshing to note in the drab streets of our great cities how widespread the desire to grow a few Roses has become. A business man myself, who spends eleven hours daily in the city of Birmingham, I write for the guidance of men who, like myself, are fond of a Rose cut from one's own garden to wear for the day as a reminder of that home we, unfortunately, spend the greater part of our lives away from. Some Roses are not good stayers, even though the water in the holder may be changed once or twice during the day. Now as to varieties with good staying powers.

Pharisaer.—I cannot speak too highly of this variety. I have sometimes, when blooms were scarce, worn a flower of Pharisäer two days, and on the evening of the second day it was still presentable. A long bud, an ideal button-hole flower and a good grower. Colour, salmon pink.

Mme. Leon Pain.—Not quite such a stayer as Pharisäer, but, still, it will last out a hot day in a creditable manner. Colour, outside of petals deep pink, ivory white on the inside.

Prince de Bulgarie.—A grand Rose in every way. I have several bushes of this variety struck from cuttings inserted in the open ground in November. This Rose grows with equal vigour on its own roots as on the Briar stock. Colour variable. In early summer the blooms are pink in the centre, outer petals white; and in the autumn it often comes yellow, and is frequently mistaken for Joseph Hill.

Mme. Ravary.—This Rose I strongly recommend city men to grow. It is one of the most vigorous and one of the most sweetly scented. The delightful perfume is one of the greatest features it possesses. Its colour is a pleasing yellow, but it possesses one failing—its grand colour does not last out the day.

Mrs. David McKee.—A reliable stayer. I have many times worn a good bloom two days, and it would still have done duty on the third if necessary. It is of a greenish white, perfect in shape, and with the scent of that grand Tea Rose Niphetos.

Mme. Constant Soupert.—A magnificent Tea Rose; yellow, tinted with pink. An excellent garden Rose, and quite ideal as a button-hole flower.

Dorothy Page-Roberts.—Coppery pink, shaded yellow. This Rose never fails to attract notice. Superb in colour and of great lasting powers, it holds its own in whatever company it may happen to be.

Sutton Coldfield. J. W. H.

NOTES ON TULIPS.

IT was a great opportunity for the Tulip at Chelsea, and I think I may say it took advantage of it. In other words, most of the firms that make the sale of this flower one of their leading features staged groups of considerable size, and it was not their fault that they were not larger. To put my impressions in generalisations, I would say, first, that as the taste of the Tulip-lover is being "tuned up" he becomes more and more particular what he buys, and none but the best are now displayed to tempt him. Secondly, that that "rare bird," a novelty in staging, was to be seen in what I can only call the Tulip mountain of Messrs. Jefferies and Sons of Cirencester. I thought it a splendid idea, for it gives the arranger an opportunity of placing his flowers in the positions which suit them best. Thus, Ada (syn. Albion) and Sweetheart (a rose Darwin with a wonderful pale blue base) are nothing above eye-level, while such a variety as Remembrance is best when seen only from the outside, and such should be above. Thirdly, I noticed a truly appalling amount of variation in nomenclature; just as sooner or later in its life-history every one-coloured flower, or breeder, as the florists express it, breaks and becomes parti-coloured, so it almost seems every variety may become many-named, *e.g.*, Gala Beauty (syn. Columbus and French Crown) and Goliath (syn. Kingscourt and Cardinal Manning). This, to say the least, is very puzzling; but what is much more so is to find such labelling as putting Mrs. Moon on Leghorn Bonnet, White Queen on Parisian White, &c. I am told by Mr. Jan de Graaff, who is the chairman of the committee of judges of the Dutch Bulb Growers' Association, that at Haarlem the power is given them of crossing out any wrong name and, if they are able, of substituting the proper one. Something of this sort is wanted with us. Fourthly, and lastly, more perhaps from conversations than from seeing them staged in large quantities, I fancy striped or broken Tulips are in the air. I was told that America was biting, and that if only our Yankee cousins had the sentimental side put before them they would be "landed." Messrs. Bath of Wisbech had, I think, the largest assortment in the whole exhibition.

The novelties in the twelve groups were provided for the most part by these broken varieties and the Darwins. Doubtless some of the Cottage would be unfamiliar to many, for Beauty of Bath, Hammer Hales, Gondvink, Lucifer, Mrs. W. O. Wolseley and Albion are not widely known as yet.

There is, of course, a great difference of opinion as to the relative merits of the different varieties. One thing the Tulip may justly claim is that it is as well able to cater for everyone's taste as any flower I know. In colour, habit, size and length of possible flowering season it "takes some beating." I would like to write on and on about its good points in the abstract and give concrete examples of what I mean, but my present purpose is not this, but rather to describe what I actually saw in the way of good things. I will begin with the Rembrandts (broken Darwins) and other broken varieties. The following little list includes some of the best: Admiral Kingsbergen, a tall, fine large crimson and white, vigorous and free; Victor Hugo (Rembrandt) a medium-sized bloom, well marked, scarlet and white; Bougainville (Rembrandt), a pleasing combination of purple and white; Quasimodo (Rembrandt), a striking and distinct shade of deep ruby red and white; Kroeschal, a magnificent combination of deep brick red or crimson and rich yellow, large flower and a vigorous grower;

CAMPANULA STEVENSII NANA, A NEW VARIETY SHOWN AT CHELSEA LAST WEEK. (*See page* 275.)

Crimson Beauty, a dark rich crimson and white; and Procles, rather a small bloom, two shades of purple and white. If I were to add Semele (Rembrandt), rosy and white; Columbus, deep yellow and scarlet; Goldmine, orange brown and yellow in a curious and effective mixture; Union Jack, two shades of purple, or lilac and purple; Summer Beauty, rose, mauve and white; and the exquisite Zomerschoon, real pink and white, I think I could claim to have made out a list of some of the best. JOSEPH JACOB.

(*To be continued.*)

MAINTAINING A LAWN IN GOOD CONDITION.

As an under-greenkeeper at a first-class eighteen-hole golf course, my experiences may prove interesting and instructive. We are all aware that a good lawn is sure to arouse the admiration of all who see it, and to keep it in first-class condition a certain amount of expense and constant work are required. It is probable that no feature is more neglected than the lawn, yet, properly maintained, it can be termed the carpet of the garden. To have a fine rich herbage that glistens with its vivid green, imparts firmness yet elasticity to the tread, and grows in uniform evenness is to have perfection in a lawn; but to secure this it is essential that the ground upon which the lawn is constructed is well drained. It may already have sufficient natural drainage, and in that case nothing need be added; but where there is danger of the water not escaping within a reasonable time after a heavy downpour, then no expense should be spared in getting it drained properly; otherwise it will prove not only disappointing in appearance and unpleasant in its use, but the finer grasses will be smothered by overpowering moss. Apart from drainage, three of the chief operations that are essential in the maintenance of a lawn are exterminating worms, manuring and weeding.

Exterminating Worms.—In my opinion, worms are the worst enemies of lawns, for it is at the most critical period of the year that they begin their destructive work. What is the use of trying to attain a fine true and firm surface if these earth pests are allowed to exist? Lawns may be rolled incessantly week in and week out in order to attain a firm and clean surface, but serious damage will be done to the turf. Not only do worms deposit their casts upon the surface, but they are constantly disturbing the roots; therefore it is impossible for the grasses to knit together and grow in uniform evenness. As there are now quite a number of worm exterminators on the market, it is an easy matter to rid lawns of worms. The one that I can confidently recommend is the preparation supplied by Messrs. James Carter and Co. There is not the slightest danger of damaging the turf by its use. It should be used according to the makers' directions. A theory is advanced that worms may be regarded as beneficial to lawns by the casts which they deposit upon the surface, if these are brushed about. I quite agree with that point, because the casts are the best of the soil; but the question is, What is happening to the roots? It is like robbing Peter to pay Paul, and in my opinion it is far better to rid the lawn of worms and keep the good soil for the roots.

Manuring.—While good lawns are looked upon as ornaments, we must not forget that they are to have a great deal of wear and tear upon them during the course of a year. It is, therefore, necessary that manuring should be done annually in order to maintain the fertility required to ensure a good growth of fine grasses. A compost consisting of good loamy soil, well-decayed manure and wood-ashes, applied in the early spring in a finely-sifted state evenly over the lawn to the depth of a quarter of an inch, and followed with a dressing of fertilising materials in the autumn, will help to maintain a lawn in good condition throughout the year. Many lawns are spoilt by being manured with unsuitable manures. Manures that are rich in phosphates and potash should be avoided, as they are apt to encourage Clovers and coarse weeds.

Weeding.—It will be impossible for lawns to develop a hard, close and uniform turf if they are infested with weeds. These not only rob the finer grasses of their food, but also of air, light and moisture. There are many preparations on the market now for killing weeds upon lawns, including sulphate of ammonia and various brands of lawn sand; but I am strongly in favour of hand-weeding, and I doubt whether any surer or cleaner method exists. It may seem a tedious operation, but I believe it to be the most economical.

Mowing and Rolling.—For the proper upkeep of a lawn, mowing must be frequent for at least six months in the year. Never allow the grass to grow long and ragged. In dry weather, and if the lawn is free from weeds, it is a good plan to forego the use of the grass-box, as the cuttings serve to protect the grass roots from the scorching sun; but should the lawn be weedy, it is not advisable to forego the grass-box, as the machine would scatter the weed seeds all over the lawn. Rolling should not be overdone, as it is ruinous to the turf. Some are under the impression that constantly rolling the lawn in the autumn will stop worms from working; but I think the tighter the surface, the more encouragement there will be for them to work. Our golf greens seldom have an iron roller upon them, yet they are as firm as a billiard table. In the absence of worms an occasional light rolling alone is necessary for the welfare of the lawn.

Elm Grove, Bishop's Stortford. F. AUGER.

THE FRUIT GARDEN.

SEASONABLE NOTES ON GRAPE VINES.

At no season of the year will cultivators find it necessary to pay closer attention to the Vines than the present. The growth is very rapid, both of bunches and shoots, and unless thinning out of berries and shoots—lateral growths—and judicious training are done just when they should be, the crop and the general condition of the Vines will not be satisfactory at the end of the season when all are ripened.

Training the Shoots.—These have a tendency to grow towards the light—the roof glass—from the first. They must be tied down, of course, but not all at one time, on account of their brittleness; tie them down gradually. When the berries have set, the shoots may be tied level with the wires, as they will be tough enough. Weakly and surplus shoots must be removed. Pinch off the ends of the shoots at two or three joints beyond the bunch retained, according to the space available, as all roof space should be nicely covered by the main leaves. Pinch off all secondary laterals from the shoots beyond the first leaf. Thus will remain the shoot, the bunch of Grapes on it, the side or secondary shoots bearing one leaf only. Keep the Vines in this condition throughout the summer, pinching off every lateral shoot while very small.

When the Vines are in Flower.—The cultivator will soon be able to tell when they are in flower, as the scent is very sweet. Until all the berries are set it will be necessary to rather sharply tap the Vine rods about noon every day, especially while the sun is shining. Shy-setting varieties, such as the Muscats, should have a camel's-hair brush or a rabbit's tail lightly passed over them in addition to the shaking of the bunches by tapping the rods.

Watering and Feeding.—Vines do not make new roots in great quantities much before the month of May, and so it is not necessary nor advisable to saturate the borders too much with water so early in the season. Vines rooting in outside borders have had ample moisture; too much in badly-drained ones. Careful examination must be made to avoid too dry a condition of the soil. The first feeding with liquid manures should be given directly the berries have set. Before applying the manure give a copious watering with clear water.

Ventilation.—Air must be admitted freely on fine days. At ten o'clock every night open the ventilators 1 inch wide. Before the sun shines strongly on the glass the following morning increase the ventilation by opening the ventilators 2 inches; and by nine o'clock give ample ventilation. Decrease it from two o'clock in the afternoon, closing the ventilators entirely by half-past three o'clock, with plenty of atmospheric moisture, but do not syringe the leaves.

Vines in Greenhouses.—Sometimes cultivators fail to get satisfactory crops from Vines grown in greenhouses; others succeed. Much depends on the management, the situation of the house and the border in which the Vine roots are, and the immediate surroundings. I was once requested by a cultivator to come and see his greenhouse Vines, as he could grow no Grapes on them. I went, and as soon as I saw the house I told him he never would grow Grapes in it as at the time constructed. It was situated close to a high dwelling-house, in a partially-shaded spot, other tall buildings in close proximity causing still more shade, and, to complete a bad structure, shaded ribbed glass was used in the roof. The greenhouse Vine cannot be given the best treatment, but Black Hamburghs and Foster's Seedling, as well as Buckland Sweetwater, do very well as a rule. Other occupants of the house must be given first attention, perhaps. Well, the cultivator should not in any way shade the glass over the Vines. He must reduce ventilation on cold days and, above all, not have the door of the house propped open. So many do this. The ventilators should be ample for their purpose. An open door, week after week, will not conduce to the benefit of the plants in pots, and it will certainly be the means of causing a chill many times to the Vines and encourage mildew on the leaves. Usually there will be sufficient atmospheric moisture for the Vines through the necessary watering of the pot plants. Keep up the strength of the Vines by due attention to the border. If possible, wherever it may be placed, contrive to give liquid manures in due season. If outside, do not grow plants on it, nor place material on it that will prevent the sun's rays penetrating. If inside, and mainly under staging, keep the surface clean and sweet and open. G. G.

GARDENING FOR BEGINNERS.

A SIMPLE BORDER FOR AUTUMN EFFECT.

DURING the late summer and early autumn days, flowers of good quality are none too plentiful in the herbaceous or mixed border. The scorching sun has then usually given the plants a severe check, and large, ugly gaps are too often present. A simple autumn border, and one that any beginner in gardening can plant at the present time, is composed of early-flowering or border Chrysanthemums, with a broad edging of some dwarf-growing annual. The accompanying illustration depicts a border of this kind, the edging in this instance being composed of Alyssum Carpet White. The Chrysanthemums used immediately behind the Alyssum are Horace Martin, which has good yellow flowers, and Goacher's Crimson, with blossoms of that colour and bronze. Coming behind these are taller plants of Rubis, an old and later-flowering variety with port-wine coloured blossoms. The green foliage of these formed a splendid background to the dwarfer varieties named, and as the latter remained in flower for about six weeks, the effect was most pleasing. These border Chrysanthemums may be purchased now in small pots, and if put out at once in good soil will quickly become established. When growing freely it is advisable to pinch out the point of each, as this induces a bushy habit. Watering during dry weather, frequent hoeing of the soil, and staking as and when required are practically all the attention that the plants require from now until flowering-time. Eighteen inches apart each way is a good distance to plant the dwarf varieties, but the taller ones should be given rather more room. Of course, many other varieties may be used in this way; but, for effect, only two or three sorts should be employed. The Alyssum can be purchased cheaply from any vendor of bedding plants, and should be put out 6 inches apart in a belt not less than 1 foot wide; a narrow edging is not nearly so effective or pleasing. If desired, dwarf Stocks, Asters or Violas could be utilised in place of the Alyssum, according to individual taste. These border Chrysanthemums, in addition to creating a beautiful floral display in the garden, provide a wealth of splendid flowers for cutting, in which condition they last good for a long time.

A SIMPLE AUTUMN BORDER OF CHRYSANTHEMUMS EDGED WITH WHITE ALYSSUM. THESE CAN BE PLANTED NOW.

After the plants have finished flowering, the stems should be cut down nearly to the ground. If the soil is naturally damp and of a clayey nature, it is advisable to lift some of the best of the old stools, place them in large pots or boxes, with some soil made firm about their roots, and stand them in a cold frame for the winter. Plants treated in this way provide excellent material for making cuttings the following spring. Where, however, the soil is light and warm, the plants will frequently stand well outdoors all the winter, their greatest enemy then being the slug. To prevent damage from this source, some coal-ashes and soot should be heaped up over the old stools, removing it when new growth is well advanced in the spring. But with choice varieties, and where there is any doubt about the plants surviving the winter outdoors, it is always advisable to lift a few and place them in cold frames as advised. Even there the depredations of slugs must be guarded against. H.

THE IMPORTANCE OF EARLY MULCHING.

THE mulching of growing crops in both flower, fruit and vegetable gardens is generally carried out every year by experienced cultivators, and they are careful to apply the surface-dressings in good time. Many less experienced in this matter defer the application of the mulch until the ground has become very dry, and the growth of the plants is arrested in consequence. The recent rains have well saturated the soil, and before the moisture is dried up from the surface portion some top-dressing material should be put on. The moisture is then conserved, also surface roots. Clayey as well as light soils should be dealt with. Leaf-soil and Cocoanut fibre are both suitable for use in the flower garden, and half-rotted manure for fruit and vegetables. Lawn grass may also be utilised for the same purpose. G. G.

THE RIGHT DISTANCE APART FOR BEDDING-OUT PLANTS.

THE general effect of really fine specimens of bedding-out subjects is spoiled if they are overcrowded in the borders or put out too far apart. In the first case, the bushy habit of the plant soon changes and becomes drawn and weakly; in the second, owing to the short summer season, the plants do not fill up the space properly, thus leaving much surface soil visible between them. The quality of the soil must also be taken into consideration. Gross-growing subjects must not be planted in soil too rich, else there will be too much foliage and few flowers. Zonal Pelargoniums should only have a medium rich soil; Nasturtiums, a very poor soil. Liliums, Zea japonica, the Castor Oil Plant (Ricinus Gibsonii), the Tobacco Plant, the Eucalyptus and similar subjects intended to fill borders of a subtropical character should have a rich rooting medium. Plants with rich and variegated leaves must have a poor soil rather than rich. Heliotropes, Begonias, Fuchsias and Petunias require good soil. All these details must be taken into account when carrying out the work of planting, so that each specimen may make good progress and flower well, and nicely fill up the space in every bed.

A few hints on particular varieties may be useful as a guide. Zonal Pelargoniums should be put out 1 foot apart; Heliotrope and Petunias, 10 inches; Fuchsias, 18 inches; Pansies, 8 inches; Calceolarias, 10 inches; plants used as edgings, rather close at first; tuberous Begonias, 15 inches to 18 inches, according to the size of the tubers and strength of the plants in June; and fibrous-rooted Begonias, 9 inches or 10 inches asunder. Plants to form carpet-bed designs should be put out so that they almost touch each other at the time of planting. Dot plants must be disposed according to the character of the beds, and they must be seen clearly on every side. B.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Bedding-Out.—From the notes in last week's calendar it will naturally be inferred that bedding-out should proceed at once, as we should now be quite safe from frosts.

Manuring.—The beds, if manured in the autumn for the bulbs, should not require manuring again. They should, however, be deeply dug, working in a good dressing of soot and a little bone-meal before planting.

Watering.—It may be found after the bulbs are lifted that the beds are very dry, and a good soaking of water will be necessary to make the soil in a fit condition for the reception of the plants.

Planting.—Wherever possible, the hardiest plants, such as Zonals and Marguerites, should be planted first, leaving the more tender subjects, such as Begonias, Coleus, Iresines and Celosias, till the last. Where the soil is of a very light nature, the beds should not be raised to any extent, or there will be difficulty when watering has to be done; but it is sometimes an advantage to raise the beds considerably when the soil is of a good holding quality and inclined to lie wet. I have noted on many occasions the desultory manner in which many plants are put in the beds. Good firm planting, with the ball of soil well under the surface, is absolutely essential if the plants are to get over the check quickly and do well during the season, and any little extra trouble that is taken at planting-out-time is amply repaid, especially if we experience a dry season.

The Shrubberies.

Pruning.—Many flowering shrubs, such as Berberis, Lilac, Syringa and Deutzia, that have bloomed should now be cut back into shape a little, unless, of course, they are planted in such a position where they can be allowed unlimited growth.

Clematises.—These are now growing very rapidly, and must receive regular attention as to tying if the growth is to be kept at all within bounds, whether the plants are on the house, pergola, or up trees or stakes.

Plants Under Glass.

Perpetual-Flowering Carnations.—The earliest batch should now be ready for transferring into their flowering pots, and for such early plants 8½-inch pots are the most suitable size. A rich soil is not necessary, but it should be a good holding loam, with sufficient lightening material in it to keep it porous; thus plenty of road grit, lime rubble, broken crock and wood-ashes should be incorporated with it, and this is better than leaf-soil for Carnations, not forgetting a 4½-inch potful of bone-meal to each barrow-load of soil. Firm potting is also necessary to secure a sturdy growth, and from now onwards the plants may be stood out of doors on a good ash bottom, providing lights can be erected temporarily over them in the event of very wet weather.

Chrysanthemums.—Continue to pot Japanese varieties as the plants become fit. It is fatal to the plants' well-being if they are allowed to become badly pot-bound.

Cinerarias.—The main batch of Cinerarias may now be sown, selecting the varieties that are likely to prove most useful, both as regards their colour and habit of growth. Fine porous soil is the best to raise these plants in, and a quite cold, shady frame will produce much healthier plants than will a warmer structure.

Primulas.—The early-sown batch will be ready for pricking off, and a further batch of obconica and malacoides may be sown. These will make plants quite large enough for flowering in 4½-inch pots from January onwards.

The Kitchen Garden.

Frames from which Lettuces have been cut may be planted with Marrows or Ridge Cucumbers, or, if frame Cucumbers are required, these may be planted; and if the frame is given a lining of fresh manure, it should provide sufficient heat to give them a good start.

Carrots.—When the garden soil is of such a nature that Carrots do not do well in it, frames as previously mentioned may be utilised for the purpose, and good crops of Intermediate Carrots can be grown by sowing now. Also, in districts where it is difficult to raise good crops of Carrots owing to fly, an early June sowing will often succeed where earlier sowings have failed.

Marrows and Gourds may now be planted in the open ground, though if the garden is exposed to rough winds it is advisable to plant them in as sheltered a position as possible.

Fruits Under Glass.

Melons planted in frames early in the month will have made considerable growth, and as soon as the selected shoots have reached the sides of the frames they should be pinched, thus inducing lateral growths, from which a good set of fruit may be expected if proper attention is given to fertilisation.

Top-Dressing.—If sufficient soil was not put in the frame when planting, this should be added now in the form of a top-dressing, it being difficult to add later when a large number of lateral shoots have been made. Keep the collars of the plants fairly high, so that when watering they may remain dry, and a little dry lime sulphur or powdered charcoal sprinkled around the collars often prevents canker. A good supply of water during the growing season is quite necessary, and sufficient syringings must be given to keep down spider, but they need not be so frequent or as heavy as given to plants cultivated in houses. The best crops of Melons I have seen in frames have been where the lights were removed entirely in the middle of the day during the setting period.

Tomatoes also do well in frames from now onwards, and come in well after the early crops in the houses. Place the fruiting pots in the front of the frames, training the shoots a few inches from the glass from front to back, and by ventilating freely at the side (not top or bottom) a more even temperature is maintained and the fruit sets as freely as in the houses.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sweet Peas.—The plants will now be growing freely, and continued attention must be given to the tying in of any shoots protruding beyond the sides of the stakes.

Planting Dahlias.—This work must now be proceeded with. It being understood that the ground was duly prepared, the stakes should first be driven in position, after which a small pit should be dug out at the side of the stake to receive the plant. It will be a great advantage if a special compost, light and rich, be made up and a good spadeful given to each plant. As the planting proceeds, each plant should be tied rather loosely to the stake.

Bedding-Out.—This work will still be proceeding, and I would remind readers that a few spare plants of all fragile plants should be planted in the reserve garden to fall back upon for filling up blanks in case of failure or accident.

Crown Imperials.—These showy spring flowers grow up with Mushroom-like rapidity and disappear as quickly. They sometimes develop seed-pods, and unless use is to be made of them, they should be picked off. It is the formation of seeds, not of flowers, that weakens a plant.

The Rock Garden.

Tidying Up.—Many of the plants have now finished flowering and are beginning to look unsightly. These should be cut over and all the weeds promptly removed.

Mesembryanthemum pugioniforme.—This is a rather striking plant, with fleshy triquetros foliage and pale yellow flowers. I obtained a batch of cuttings of it from a South Devon garden, where it is said to be hardy. I root cuttings in the open in a seed-pan in September and winter them in a cold frame, planting them about the rockwork in May.

The Pleasure Grounds.

Watering.—We often have a spell of drought in June, when newly-planted trees and shrubs are apt to suffer unless attended to with water at the root.

Trimming Odd Corners.—It is no uncommon thing to see the lawns trimly kept, while in odd corners, where the mower cannot be applied, such as round trees, against buildings and in sharp angles, the grass is allowed to grow at will for weeks. This looks bad. Tidy with the scythe as far as possible, and a sharp knife deftly handed will do the rest.

Plants Under Glass.

Final Potting of Chrysanthemums.—This work cannot be delayed much longer. See that the pots and crocks are clean and dry, also have a good quantity of compost ready and put under cover, so that the work may proceed irrespective of weather conditions. Experienced growers have their individual theories as to soils, but we all know that success largely depends upon judicious feeding in the autumn. The following will, however, be found a good compost for general use: Turfy loam three parts, old Mushroom manure one part, half-decayed Beech or Oak leaves one part, sharp sand one part, bone-meal half a part, wood-ashes half a part, and about a six-inch potful of soot to four bushels of soil. If the plants are suffering for want of food, water in a pinch of Clay's or similar fertiliser prior to knocking the plant out of its present pot. Leave plenty of room for top-dressing.

Humea elegans.—Seeds of this graceful plant should now be sown in a cool frame.

Liquid Manure.—Many plants will now require help with liquid manure. The article can be had in many forms. Horse-manure with some soot put into a guano-bag and immersed in a tank of water will yield a safe stimulant. Good results will also be obtained by mixing guano or Clay's Fertilizer at the rate of 2oz. per gallon. Dissolve with a little hot water and then add cold water. Twice a week is quite often enough to apply liquid manure.

Fruits Under Glass.

Early Peaches.—Where the fruits are ripening, a net should be run along under the trees to catch the fruits which may fall. The Peach is easily damaged, and should be handled very carefully. All the fingers and thumb should be applied when picking the fruits.

Late Cucumbers.—Now that the frames are being cleared of bedding plants, a few lights may be profitably devoted to late Cucumbers. If seed has not been sown for this purpose, cuttings can be rooted in a few days.

The Hardy Fruit Garden.

Cleaning Strawberries.—The hoe should be run through all the Strawberry quarters, as fruits will be swelling now, and the less they are interfered with subsequently until the crop is picked the better.

Taking Strawberry Runners.—Where stock is wanted for early forcing, runners cannot be taken a day too soon. Fill rather more than the requisite number of 3-inch pots with light, rich soil, and sink a pot to its rim immediately under the young plant, securing the runner to the soil in the pot by means of a peg. Give all a watering when the layering is completed.

The Vegetable Garden.

Late Peas.—The last sowing for the season should be got in within the next week or ten days, and a second-early variety, such as Senator or The Pilot, is now preferable to a late variety.

Planting the Brassica Family.—Spring-sown Cabbages, Savoys, greens and Brussels Sprouts will now be ready for planting out, and showery weather is to be preferred for the work. From 21 inches to 24 inches by 18 inches is the correct distance apart for the foregoing. If the weather is really dry, make a puddle of earth and water and dip the roots in it prior to planting.

Asparagus-Beds will be benefited by a slight dressing with salt, preferably during showery weather.

Thinning Crops.—Beet, Turnips and Salsify should be thinned if not already done.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE GREENHOUSE.

SEASONABLE NOTES ON AURICULAS.

Plants After Flowering.—One of the most common faults with amateurs and cottagers who cultivate these refined and altogether charming plants, and other kinds, too, as far as that goes, is to neglect them when they have finished flowering. Directly the blooms have gone the plants are forgotten until the end of the summer, or perhaps for a still longer period, and the natural result is that many of them die instead of living to produce more flowers in succeeding years. This is utterly wrong with any plants whose duration is more than one season, and particularly so with Auriculas, since some of the most important details of management come along after the period of floral beauty. It is then that one should consider the repotting and the removal of such enemies as the white aphis, which gathers round the crown of the plants, as well as other routine operations. Those who would achieve continued success with Auriculas must be prepared to have them in mind from one year's end to another, not because they will always be demanding attention or because they are "miffy," but because any little thing that is required will be done at the correct time.

Choice of Pots.—The task of the moment is repotting, as June is the most generally satisfactory month for the operation. With many plants the precise shape of the pot does not matter much, provided that it affords proper space for the roots; but with Auriculas one should always give the preference to pots that are exceptionally deep in comparison with their diameter at the top. The plant forms a long tap root, and the ordinary pot does not give the depth which is demanded, or which is, if not really essential, beyond question most desirable. It is possible to procure these long, deep pots, though it is not always easy to find a supply; but the man who is determined to secceed will not begrudge the time necessary to provide for wants.

Repotting.—Having secured the most suitable and convenient pots, they must be washed, and, if new, allowed to drain before use. Then turn to the question of soil, and do not follow the old writers, who recommended the most extraordinary and weird mixtures. Sound loam of the finest quality should form the base and the bulk of the compost, and to it may be added at discretion thoroughly-rotted manure and sand or other opening material. Whatever the components may be, they ought to be put together several days before actual use. Opinions differ as to whether all the soil should be shaken off or not; but it has the material advantage of showing immediately if anything is amiss with the tap root, in which event it is promptly cut away, and also permits one to apply methylated spirit or other effective wash to destroy the white aphis.

When inspection reveals the fact that the fleshy tap root is in bad condition, necessitating cutting back to the healthy part, it will be wise to put the plant into a pot of the same size as that previously occupied, or, and sometimes wiser, into one a size smaller. This point will have to be decided upon the merits of each plant, and the governing factor will be the number of clean, sound roots. It is in no case desirable that the soil shall be rammed into the pots until it is as hard as a road; but it must not be, on the other hand, so loose that water applied will rush straight through to the drainage. Find the happy medium between those extremes and the condition will be correct.

Considerable judgment will be required after potting in regard to the quantity of water. It is never wise to give much when the roots are not working freely, but it is imperative that the leaves shall not be permitted to flag seriously. To obviate the necessity for frequent applications, shade the frame from the fierce sun for a fortnight and do not admit quite as much fresh air. When there are unmistakable indications that the plants have fully recovered from the change of soil conditions, the normal amount of fresh air must be again provided to encourage satisfactory advance. Towards the end of the month frames which are facing the south should be turned to give them a northern, and therefore cooler, aspect.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

LILIUM CANDIDUM DISEASED (*E. G. W.*).—The white Lily is attacked by the Lily disease. It appears to have attacked the plant where it has been weakened, perhaps by frost or cold wind, or even by insect injury. No cure is known for this disease: but it would be worth while trying the effect of removing the top soil and replacing with fresh soil which has been well sterilised.

ASTERS AND WIREWORM (*J. P.*).—The grub eating your Asters is the wireworm. Picking out wireworms is the only remedy under the circumstances, but you may trap them by burying a half of a hollowed-out Potato in the soil near them. Sprinkling a little Apterite or Vaporite about the plants would also help to drive them away. Wireworms are one of the worst pests the gardener has to contend against.

ORCHIS (*Collapit*).—All the Orchids mentioned, except Bletia hyacinthina and Calypso borealis, would be suitable for growing in the grass unless it gets too thick and coarse. The roots must be planted quite 3 inches below the surface. Habenaria bifolia, Ophrys apifera, O. lutea, O. speculum and Orchis provincialis are lime-loving plants, and with Habenaria ciliaris are the best of those mentioned. In suitable situations they flower freely. Bletia hyacinthina and Calypso borealis require more careful treatment, especially the latter. They must be planted in a shady position in rich, leafy soil.

DIVIDING PRIMULA DENTICULATA (*G. C.*).—This Primula and all its forms is best raised periodically from seeds sown as soon as ripened. The divided example is rarely endowed with the vigour of the seedling, and seldom produces so good a growth. If divided, it should be done as soon as flowering is over. From a well-flowered plant, however, a couple of hundred seedlings might be raised, and with not much trouble. If the grass is not sufficiently dense to smother the plants, they may do well for a time, even in the gravelly soil, by reason of the moisture present. To avoid excess of flooding, give them somewhat raised positions where the root-fibres would reach moisture when necessary.

THE GREENHOUSE.

WHY PLACE PLANTS NEAR THE GLASS? (*L. W.*).—Curiously enough, the action of light is to retard the growth of plants, and the nearer they are to its presence the less are they likely to grow lanky. At the same time, a good supply of light enables them to obtain the power necessary to have in order to enable them to make their food, and for this cause, again, the nearer the source of light the better for them. No matter how good the glass may be, a certain amount of light is cut off by it, and it is necessary for the plants to be as near to the source of light as possible. The placing of a second piece of glass over the plant would, therefore, not allow the plant to obtain the necessary light nor act in the same way as placing it near the glass.

CHRYSANTHEMUMS (*F. F.*).—The varieties you name would come under the heading of decorative varieties or early-flowering Japanese, though probably Nina Blick might, if necessary, be shown as a reflexed; but we rarely see it classified as such nowadays. For blooming in the greenhouse later in the season you might grow the following: *Soleil d'Octobre, *Bronze Soleil d'Octobre, La Triomphante (pink), *Matthew Hodgson (chestnut), Heston Bronze, Dr. Engubard (pink), *Freda Bedford (bronze), Moneymaker (white), Nagoya (yellow), Mrs. Andrew Walker (coppery red), December Gold and *Baldock's Crimson. All the above are fairly close flowers, and about the shape of those you name. If you only wish to grow half-a-dozen varieties, you might choose those marked with an asterisk.

CULTURE OF CLIANTHUS (*R. F. C.*).—The culture of Clianthus puniceus and its variety albus differs according to the part of the country in which the plants are grown. In the milder parts of the country they thrive excellently against walls in the open, and good examples are met with in many parts of Cornwall and Devonshire. It is probable that you might be able to cultivate it against a wall with a south or west aspect, providing a small glass shelter could be attached to the top of the wall. Both plants are perennials, or, rather, sub-shrubs, and are raised from seeds. They thrive in well-drained loamy soil. In colder parts of the country they must be grown in a sunny greenhouse, either in pots or planted out in a well-drained border. As a rule, the best results are obtained by training them to pillars or rafters. Clianthus Dampieri is somewhat more tender than the last-named. It is usually treated as a biennial, sometimes as an annual. On its own roots it is a very difficult plant to grow; therefore it is usually grafted, while very young, upon stocks of the Bladder Senna (Colutea arborescens). Seeds of the Colutea are sown about a fortnight in advance of those of the Clianthus, and when the Clianthus seedlings are a few days old they are cut off 1 inch or so below the cotyledons. The stem is cut into the shape of a wedge by means of a sharp razor, and the stem of a young Colutea is slit down between the seed leaves, the wedge-shaped graft being inserted and secured in position with matting. The plants are then stood in a close, warm case for about a fortnight, after which time the union of stock and scion will be found to have taken place. The plants are then grown in an airy greenhouse and repotted when necessary, a compost being made up of two parts of fibrous loam to one part of peat or leaf-mould with a moderate amount of sand. When in flowering pots or baskets, manure-water may be given once a week when the soil is well filled with roots. It should have been mentioned that the Colutea seeds must be sown singly in small pots to avoid root disturbance.

ROSE GARDEN.

ROSE GROWTHS INJURED (*C. T.*).—The damage has been caused by caterpillars. You should have the trees well searched, and, if you have caterpillars, spray with arsenate of lead paste. The slugs can be kept down by using Slugene. Both preparations are obtainable from Messrs. W. Voss and Co., Millwall, E. We think you would obtain all you require for your rock garden from any of the firms who advertise in our pages, and as they keep a large number of subjects in pots, they can be planted practically at any time.

PREPARING ROSE-BEDS (*F. L. L.*).—September would be about the best time to commence the preparation of the soil, and it would then be in a nice condition to plant towards the end of October, the best time of all for planting Roses. We do not advise chemical manures when preparing new beds, excepting basic slag and bone-meal. If you can procure a supply of really good farmyard manure in early September, you should do so; not strawy stuff, but good manure from a farm that has been well trodden over by horses, cattle and pigs. In preparing the soil it should be trenched, and any good gardener would show you how to have this done. The soil is moved to a depth of 2 feet to 3 feet; but the bottom, or subsoil, is kept in its place and not brought to the surface. With the lower soil we advocate mixing basic slag at the rate of about six ounces per square yard, together with a good layer of the farmyard manure. When the Roses are planted, give each plant a handful of bone-meal, mixing it with the soil at the time of planting.

FRUIT GARDEN.

BIRDS PICKING FRUIT-BUDS (*W. S. R.*).—Undoubtedly the moss on the trees attracted the birds in the first instance, this being, partially at least, the innocent cause of the fruit-buds being attacked. One way of preventing this in future will be by spraying your trees in winter with the caustic alkali wash. This will destroy every vestige of the moss, and clear the trees also of any other vegetable or parasitic insects by which they may be infested. This is a cheap wash, and may be had of any seed merchant advertising with us, with full particulars as to how to apply it. If you have any difficulty in procuring it, let us know, and we will give you the recipe. Where birds are numerous and fruit trees of the kind you mention not over-plentiful, buds are frequently destroyed. The only way of preventing the mischief is by netting the trees in good time.

MISCELLANEOUS.

DISEASE IN TOMATOES (*F. M. G.*).—From your description of the symptoms, we have no doubt whatever that the Tomatoes are attacked by a fungus, but in the absence of specimens it is impossible to say which one. We have no doubt the best method of avoiding the trouble is to steam sterilise the soil in which one intends to sow the seeds.

INSECT PESTS (*Edinburgh*).—1. We do not recognise the larvæ sent with certainty. They are those of a moth belonging to the group called Noctuæ. It would have been a help to have mentioned the food plant. 2. The Rhododendron leaves have been bitten either by a weevil or by a caterpillar. The work of the two pests is very much alike. We would recommend you to spray the affected plants with lead arsenate, to be obtained in the paste form, mixed with water according to the directions supplied on the packet, and sprayed on with a very fine sprayer. 3. The slug trap advertised in our columns under the name of "V.T.H." will be found an excellent one. 4. The shade of Yews is too dense for most plants. You may find a few Ferns of the less exacting sorts will grow for a time in such a position, but they will require renewal now and again.

NAMES OF PLANTS. — *J. R. Dalton.* — Clianthus Dampieri alba.——*J. Brown.* — Rose Richmond.——*E. M. H., Uffington.*—1 and 2, Helianthemum vulgare variety; 3, Saxifraga granulata; 4. S. hypnoides variety; 5, S. trifurcata; 6, Potentilla species (very scrappy); 7, Alyssum saxatile.——*J. Thomas.*—The Bird Cherry (Prunus Padus).——*J. B., N. Wales.*—1, Chrysosplenium oppositifolium (Golden Saxifraga); 2, Armeria maritima (Thrift).——*E. W., Sheffield.*—Weevil Plant (Curculigo recurvata).——*T. H. R.*—1 and 6, Helianthemum vulgare variety; 2, Tiarella cordifolia; 3, Geum hybridum; 4, Sedum altissimum; 5, Saxifraga Geum crenatum; 7 and 8, cannot name without flowers; 9, Thymus vulgaris variegatus; 10, Iberis correæfolium.——*W. L.*—1, Acacia juniperina; 2, Sophora tetraptera microphylla.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY'S SPRING SHOW AT CHELSEA.

SUNDRIES.

(*Continued from last week.*)

Messrs. Corry and Co., Limited, Bedford Chambers, Covent Garden, W.C., had specimens of their tobacco preparations and insecticides, including syringes and other articles for which this firm is famous.

Paper flower-pots were shown by Messrs. Blake and Mackenzie, Liverpool.

A useful and interesting exhibit, including wire trainers of many forms, was staged by Mr. John Pinches, 3, Crown Buildings, Camberwell, S.E., bloom protectors and Acme labels being well to the fore.

Lawn boots of good workmanship and design were shown by Messrs. H. Pattisson and Co., Greyhound Lane, Streatham.

Gishurst compound, fibre and insecticides were staged by Price's Patent Candle Company.

Weed-killers, lawn sand and insecticides were shown by the Acme Chemical Company, Tonbridge, and also examples of the Higginson patent spraying appliances.

Messrs. Robinson Brothers, Limited, Ryder's Green, West Bromwich, had a most interesting stand displaying Carmona fertiliser, with illustrated methods of application, Clift's fluid and pine spray, germicides, insecticides and lawn sand.

Lawn-mowers suitable for all purposes were exhibited by Messrs. Alexander Shanks and Son, Bush Lane, E.C.

Messrs. Walter Voss and Co., Millwall, E.C., had a large and varied stand of the famous Carlton fertilisers, and examples of seedlings growing in sterilised and unsterilised soil.

The Abol syringe with its recent improvements now makes a perfect sprayer, and with Abol insecticide proved an attractive stand as shown by Messrs. E. A. White, Limited, Paddock Wood, Kent.

Messrs. James Carter and Co., Raynes Park, had a well-arranged stand, showing some large panoramic views of their offices and seed-testing station. Some excellent diagrams showing various seeds and their impurities were most instructive, and apparatus for simple analysis of soils for amateurs well deserved attention. A further interesting exhibit consisted of specimens of growing turf taken from twenty-two golf courses, which have been grown from their Tested Seeds, together with samples of soil from each course, one of the most interesting being turf from Merton course, grown from seed sown in November, 1912. A further interesting display was that of sections of the various seeds of Rape, Turnip, Black Mustard, Charlock and Cabbage, which in the seed are exactly similar. These diagrams were of great interest, showing the differential inter-cellular tissue of the sections, which were sufficiently distinct to enable one to distinguish one variety from another.

An interesting series of garden plans and designs were shown by Messrs. R. Wallace and Co., Colchester.

Messrs. Jeyes, Limited, Cannon Street, E.C., showed some good examples of insecticides and sprayers.

Messrs. Joseph Bentley, Limited, Barrow-on-Humber, had a well-arranged stand of weed-killers and other horticultural chemical specialities.

Mr. G. Dunford, 11, Ley Road, Ilford, showed his well-known lawn brooms.

The French Cloche Company, Caxton House, Westminster, staged specimens of cloches, mats and frames, and all other requisites for French gardening.

Messrs. Thomas Green and Sons, New Surrey Works, S.E., had a well-displayed assortment of lawn mowers in all sizes, and garden rollers. A motor lawn mower of improved form was also exhibited.

Mr. Vernon T. Hill, Langford, near Bristol, staged his patent slug trap.

The Key fertilisers were shown by Mr. A. Key, The Crescent, Norwich.

Messrs. Ransomes, Sims and Jefferies, Ipswich, had an attractive exhibit of motor, horse and hand power lawn-mowers, suitable for all purposes.

Robert Sydenham, Limited, Birmingham, showed rustic table decorations in many pretty and attractive designs.

Steel garden stakes and hoops for fastening were shown by Messrs. F. Walters and Co., Bilton, Rugby.

A large and varied exhibit of garden requisites was staged by Messrs. Barr and Sons, King Street, Covent Garden, including garden labels, patent bulb planter and dibber, and artificial manures of every description.

MEDALS AND CUPS AWARDED.

GOLD MEDALS.—Sir George Holford, K.C.V.O., C.I.E., Westonbirt, Tetbury, Messrs. Charlesworth and Co., Hayward's Heath, and Messrs. Sander and Sons, St. Albans, for Orchids; Messrs. R. Wallace and Co., Colchester, for rock and formal garden; Mr. J. Wood, Boston Spa, for rock garden; Messrs. James Carter and Co., Raynes Park, for flowering plants and vegetables; Messrs. Veitch and Sons, Chelsea, for trained fruit trees and stove, greenhouse and flowering plants; Messrs. Sutton and Sons, Reading, for flowering plants; Mr. L. R. Russell, Richmond, for stove plants and shrubs; Messrs. Blackmore and Langdon, Bath, for Begonias, &c.; Messrs. Frank Cant and Co., Colchester, for Roses; Messrs. R. and G. Cuthbert, Highgate, for Azaleas; Messrs. Dobbie and Co., Edinburgh, for Sweet Peas, &c.; Mr. C. Engelmann, Saffron Walden, for Carnations; Messrs. W. Paul and Sons, Waltham Cross, for Roses and flowering plants; Messrs. J. Piper and Sons, Bayswater, for shrubs, &c.; Messrs. J. Waterer and Sons, Bagshot, for flowering plants; Messrs. H. B. May and Sons, Edmonton, for Ferns; Messrs. Alex. Dickson, Newtownards, for Tulips; the Hon. Vicary Gibbs, Elstree, for vegetables; Messrs. W. Fromow and Sons, Chiswick, for Japanese Maples; Messrs. T. Rivers and Son, Sawbridgeworth, for fruit trees and Citrus fruits in pots; and Messrs. W. Cutbush and Son, Highgate Nurseries, for Carnations.

FARRER CUP.—Messrs. Bees, Limited, Liverpool, for alpines.

DAVIDSON CUP.—Messrs. Charlesworth, Hayward's Heath, for the best Cattleya, not a hybrid, in the show, C. percivaliana Mary Regina.

SILVER-GILT CUPS.—Messrs. J. Backhouse and Son, Limited, York; Messrs. Barr and Sons, Covent Garden; and Messrs. J. Piper and Son, Bayswater, W., for rock and water gardens; Messrs. J. Veitch and Sons, Chelsea, for Tulips and general exhibits; Messrs. Jackman and Sons, Woking, for Clematises, shrubs and plants; Messrs. G. Bunyard and Co., Maidstone, for Apples; and Messrs. Wallace and Co., Colchester, for a herbaceous group.

LARGE SILVER CUPS. — Mr. Maurice Prichard, Christchurch, for alpine garden and herbaceous plants; Messrs. Sutton and Sons, Reading, for vegetables, &c.; Mr. L. R. Russell, Richmond, for foliage and flowering plants; Messrs. G. Paul and Sons, Cheshunt, for Roses and Azaleas; Mr. Charles Turner, Slough, for Roses, Carnations, Lilacs, &c.; Messrs. E. Webb and Sons, Stourbridge, for Calceolarias and flowering plants; Messrs. Young and Co., Cheltenham, for Carnations; Mr. Amos Perry, Enfield, for herbaceous plants and alpines; Mr. A. Dutton, Iver, for Carnations; and Messrs. John Peed and Son, West Norwood, for Caladiums, &c.

SILVER CUPS.—Sir Jeremiah Colman, Bart., Gatton Park, Reigate, Messrs. Armstrong and Brown, Tunbridge Wells, Messrs. J. Cypher and Sons, Cheltenham, Messrs. Stuart Low and Co., Bush Hill Park, and Messrs. J. and A. McBean, Cooksbridge, for Orchids; Messrs. Pulham and Son, Newman Street, and Messrs. T. S. Ware, Limited, Feltham, for rock gardens; Messrs. J. Cheal and Sons, Crawley, for formal garden and alpines and shrubs; Messrs. James Carter and Co., High Holborn, for formal garden; the Hon. Vicary Gibbs, Elstree, and Miss Troyte-Bullock, Yeovil, for Pelargoniums; Leopold de Rothschild, Esq., C.V.O., Leighton Buzzard, for Carnations and Statice; Messrs. W. Cutbush, Highgate, for flowering plants; Messrs. B. R. Cant, Colchester, for Roses; Messrs. J. Hill and Son, Lower Edmonton, for Ferns; Messrs. Hobbies, Limited, Dereham, for Roses; Mr. J. Macdonald, Harpenden, for Grasses; and Messrs. G. Mount and Son, Canterbury, for Roses.

STANDARD CUPS.—E. H. Davidson, Esq., Borlases, Twyford, and Messrs. Mansell and Hatcher, Rawdon, for Orchids; The Craven Nursery Company, Clapham, Yorks, for rock garden; Messrs. Cunningham, Fraser and Co., Edinburgh, for alpine plants; Mr. Clarence Elliott, Six Hills Nursery, Stevenage, for rock garden; Mr. G. Renthe, Keston, for rock garden and herbaceous plants; Messrs. Whitelegg and Page, Chislehurst, for rock garden and alpines; Messrs. G. Beckwith and Sons, Hoddesdon, for Roses; Mrs. B. Barrett, Castlethorpe, for Schizanthus; Mr. A. J. Bruce, Chorlton-cum-Hardy, for Sarracenias; Mr Reginald Prichard, Wimborne, for alpines; Mr. George Prince, Longworth, for Roses; Dr. John Macwatt, Duns, for Primulas; and Mrs. Litkie, Maidenhead, for herbaceous plants.

SILVER-GILT HOGG MEDAL. — Messrs. Laxton Brothers, Bedford, for Strawberries and fruit trees.

SILVER-GILT KNIGHTIAN MEDAL.—The King's Acre Nurseries, Hereford, for fruit trees.

SILVER-GILT FLORA MEDALS.—Messrs. Hassall and Co., Southgate, for Orchids; Messrs. Barr and Son, Covent Garden, for Tulips, &c.; Messrs. Stuart Low, Bush Hill Park, for Carnations, &c.; Messrs. Phillips and Taylor, Bracknell, for herbaceous plants; Messrs. Hogg and Robertson, Dublin, for Tulips, &c.; Mr. Bell, Guernsey, for Carnations; Mr. Box, Lindfield, for hardy plants; Mr. Burnett, Guernsey, for Carnations; Messrs. Clark, Dover, for herbaceous plants; Messrs. Jefferies, Cirencester, for Tulips; and Messrs. Ware, Feltham, for herbaceous plants.

SILVER-GILT BANKSIAN MEDALS.—The Guildford Hardy Plant Nursery, Guildford, for rock garden; Messrs. Artindale, Sheffield, for hardy and water plants; Messrs. Allwood, Hayward's Heath, for Carnations; Baker's, Wolverhampton, for hardy alpine and bog plants; Messrs. Fletcher, Chertsey, for American plants; Messrs. Gibson, Bedale, and Messrs. Kelway, Langport, for herbaceous plants; Messrs. Ker, Liverpool, for Amaryllis; Messrs. Needham, Kelmscott, for Tulips; Messrs. Notcutt, Woodbridge, for flowering and foliage plants; and Messrs. Watkins and Simpson, Covent Garden, for annuals in pots.

SILVER KNIGHTIAN MEDAL.—Thatcham Fruit Farm, Newbury, for vegetables.

SILVER FLORA MEDALS.—Mr. S. W. Flory, Twickenham, for Orchids; The Burton Hardy Plant Nurseries, Christchurch, for rock garden; Messrs. Bath, Wisbech, for Tulips and Carnations; Mr. C. Blick, Hayes, for Carnations; Mr. C. Bourne, Bletchley, for Tulips; A. P. Brandt, Esq., Bletchingley, for fancy Pelargoniums; Messrs. Cannell, Swanley, for Cannas, Pelargoniums, &c.; Messrs. Carter Page, London Wall, for herbaceous plants and annuals; Mr. Douglas, Great Bookham, for Carnations; Mrs. Edwards, Llangollen, for alpines; Messrs. Godfrey, Exmouth, for Pelargoniums, &c.; Messrs. Gunn, Olton, for herbaceous plants; Mr. Hemsley, Crawley, for alpines; The Misses Hopkins, Shepperton, for herbaceous plants; Messrs. E. W. King and Co., Coggeshall, for Sweet Peas; the Rev. H. Buckston, Hutton Hall, for Calceolarias; Mrs. Rolls Hoare, Horsham, for scented Pelargoniums; Robert Sydenham, Limited, Birmingham, for Sweet Peas; Messrs. Thomson and Charman, Adelphi, for hardy plants; Messrs. Robert Veitch, Exeter, for Calceolarias; The Wargrave Plant Farm, Liverpool Street, E.C., for Tulips and herbaceous plants; and Messrs. Carlton White, Bond Street, for clipped Box and topiary work.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Art Supplement.—In response to requests made by numerous readers on different occasions, we are presenting with this issue a photographic art supplement in place of the usual coloured plate. Other supplements of this kind will appear in our issues for July 5, August 2 and August 30 respectively, after which date a coloured plate will appear every fortnight as usual. In the meantime coloured plates will be presented with our issues dated June 21, July 19 and August 16.

Effective Combination Under Deciduous Trees.—A very pleasing effect may be obtained by planting Thaspium aureum, the North American Meadow Parsnip, which has yellow leaves and flowers somewhat resembling a hardy Euphorbia, with the common Bluebell, both requiring the amount of shade obtained by the trees. The Thaspium is easily increased by divisions or by seed, and soon becomes established. The plants then give an attractive display of beauty annually.

Asters and Insects.—Now that thousands of Asters are being planted out for summer effect, we would warn readers of the danger that is usually lurking unseen among them. Too often we hear complaints of plants with their young foliage curled and crippled, and this is usually due to mites or aphides. As each plant is lifted from the box, it should be dipped into some weak insecticide and moved about in it, so as to thoroughly wet the whole of the foliage. This simple task now will in many cases mean the difference between success and failure later on.

A Useful Crevice Plant (Erinus alpinus).—Of the multiplicity of alpines that flower at this season, Erinus alpinus occupies a foremost position, particularly as a subject that finds a suitable home in chinks in the alpine garden. Moreover, it is an excellent wall plant, and may easily be established in a wall by sowing seeds in crevices that have been filled in with a stony or gritty peat and loam. E. alpinus has variable rosy purple flowers, and the variety albus is a white counterpart. It is a native of the mountains of Western Europe, but it is naturalised here and there in Britain.

An Iris for the Water-side.—Iris sibirica can be depended upon to grow and flower freely if planted about the margins of lakes, ponds or streams where the roots are continually moist, and there are few showier subjects when it is at its best during early June. Throughout the growing season the grass-like leaves present a pleasing change from coarser vegetation, whereas the tall, slender flower-scapes, growing to a height of 2½ feet or 3 feet, terminated with lilac purple or bluish flowers, are most attractive. Added to this, it gives comparatively little trouble, for, once established, it grows for several years without attention other than keeping it clear of coarse weeds. When the clumps become overgrown they are easily put right by dividing up into smaller sections as soon as the flowers fade.

Wild Gorse and Broom.—Never before in the memory of the oldest inhabitants of the Southern Counties have the hillsides and commons been so resplendent with Gorse and Broom as they are this year. The Gorse in particular has been wonderfully effective, the large, irregular masses of dark green and gold providing an object-lesson in landscape effect that gardeners would do well to make a mental note of. Both plants thrive admirably on dry, sandy soil where little else will grow, a fact that is now being taken advantage of in gardens where soil of this character exists, the double-flowered Gorse and Cytisus scoparius andreanus being extensively planted.

The European Snowy Mespilus.—In Amelanchier vulgaris, a native of Europe, we possess one of the best Snowy Mespiluses or June-berries for small gardens. It forms a spreading bush averaging 3 feet to 6 feet high, and, being comparatively slow in growth, does not outgrow its position a few years after planting. A. vulgaris is later in flowering than the better-known A. canadensis, being at its best at the beginning of May, and the flowers are not so fleeting as those of that species. A. vulgaris is readily distinguished from all the other species by its bushy habit, hairy leaves and large, pure white flowers. The Amelanchiers thrive in most soils and situations. Seeds and layering form ready means of increase.

The Fuchsia-flowered Gooseberry. — Ribes speciosum, sometimes known as R. fuchsioides, the Fuchsia Gooseberry of California, is one of the most interesting of the flowering shrubs blooming at the present time. The elegant sprays of flowers, which are borne in clusters of one to three, with the stamens twice as long as the calyces, are of a rich deep red, and somewhat resemble the Fuchsia. They are very attractive, being borne on the previous year's growth from 3 feet to 4 feet long. If room permits, it may be allowed to grow naturally—it will then form a bush from 6 feet to 8 feet high; but if the space for it is limited, it should be cut back as soon as the flowers are over. In either case it produces a very pleasing effect.

A Beautiful Hardy Annual.—One of the most interesting annual plants that we have in flower outdoors just now is Collomia coccinea, which, although a native of Chili, stands our winters unharmed. The plants we have were self-sown last autumn, and have now made dense little bushes some 12 inches to 15 inches high. The flowers, which are vermilion in colour, are produced in rather dense clusters, much in the same way as those of Crassula or Rochea falcata. The under surface of the petals, and also the flower-tube, is of rich apricot hue. In addition to its value for the outdoor garden, this annual is excellent for growing in pots in the greenhouse, where it will flower early in the year. It is difficult to understand why it is so little known.

CORRESPONDENCE.

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

Why not a Hardy Shrub Society?—We have now Rose, Sweet Pea, Hardy Plant, Auricula and other societies for the study and popularisation of various species of plant-life. May I ask, why not a Hardy Shrub Society? There is a large and growing interest in the beautiful flowering and evergreen shrubs which we can grow in the open in these islands, and their number is being added to yearly. A society which would promote the planting of the best of these in private gardens and might assist their appropriate use in public gardens and parks should be of value to all garden-lovers. If some of the leading growers of hardy shrubs would take up this idea, the writer, as a humble amateur, would be glad to give any assistance in his power.—E. A. Croft.

Cutting the Foliage of Bulbs. Those who grow Darwin and Cottage Tulips largely are, naturally, much interested in the question of cutting back after flowering. Owing to the fierce spell of summer weather which set in just after the Chelsea Show, the flowers aged rapidly and, moreover, the foliage ripened with a rapidity that I have never seen equalled. To my mind it is simply bad gardening to let long stems and masses of textureless leaves remain on the plants for many days and even weeks—an eyesore in the garden and absolutely without benefit to the bulbs. The fear of premature leaf removal sends people to extremes. Let them boldly cut the flower-stems away quite low, with the small, thin, waning leaves adhering, but keep the large feeder leaf near the base as long as possible. The appearance of the garden generally will benefit immensely, and the bulbs will not suffer injury one jot. New bulbs form every year, and I recently turned some up that were large and well coloured. I may add that it is a complete delusion to suppose that May Tulips require annual removal.—W. P. W.

Exterminating Worms.—I was rather surprised to see no editorial comment on Mr. F. Auger's remarks on exterminating worms in lawns that appeared on page 280 of last week's issue. Worms, instead of being the "worst enemies" of lawns, are their best and, indeed, their indispensable friends. They do absolutely no injury whatever to the grass roots, and the necessary aeration of the soil is almost wholly their work. The foolish folk who waste money on the advertised worm destroyers and attempt to entirely banish worms from their grass would succeed in nothing but rendering the soil inert, dead and incapable of growing grass at all. Fortunately, it is probably an impossibility to really exterminate the worms on a grass plot of any size. The only place where worms are hurtful is a pot or seed-pan, where the poor creatures are imprisoned and unable to live naturally.—G. H. Engleheart. [We publish Mr. Engleheart's letter, but cannot agree with all his statements. Although worms may not injure the roots of the grasses, their casts are a great nuisance, as many owners of lawns know to their cost.—Ed.]

Climbers for a Lofty Conservatory.—On reading an answer entitled "Climbers in a Lofty Conservatory" in The Garden, issue May 24, page xvi., the following additional climbing plants, with their varieties, occur to me, all of which flourish here without stove heat: Abutilon, practically evergreen; Tacsonia, seen to advantage on a roof, from which it hangs in long, graceful sprays, and very quick growing; Bougainvillea, Plumbago, the species of Fuchsia (F. gracilis I think it is) with all red flowers on long, slender stalks and large, handsome leaves; also Vitis henryana, the distinctively marked leaves of which are most effective trained up a pillar. It turns a deep crimson purple in winter and is self-clinging. An excellent way of covering a shady wall in a conservatory is with the common Hart's-tongue Fern, planted in shallow soil, covered with moss, the latter being kept in place on the wall by means of narrow strands of iron. The entire surface of a large wall—if in the shade—may be beautified in this manner.—Eleanor Shelley, *Avington, Alresford, Hants.*

A BEAUTIFUL NEW HYBRID PRIMULA, LEDDY PILRIG, THE RESULT OF CROSSING P. BULLEYANA AND P. BEESIANA.

A Beautiful Hybrid Primula.—I send with this note a spike of a hybrid Primula which my gardener, Mr. William Robertson, has been successful in rearing. It is a cross between P. bulleyana and P. beesiana. It received a first-class certificate last year from the Scottish Horticultural Society. This year the plants have thriven well and have flowered, as I think, with exceptional beauty. I hope you will agree with me when you see the flowering stem which I send with this. The Primula measures now from the ground to the top 27½ inches, and should grow at least 1 inch or 2 inches more. The whorls have seventeen or eighteen flowers on each. The colour, as you will see if the spike travels at all well, combines the purple red of P. beesiana with the apricot of P. bulleyana very delightfully. It has a perfume, which it takes from the pollen parent, P. bulleyana. The hybrid is named Leddy Pilrig.—(Miss) B. Balfour-Melville. [The Primula sent by Miss Balfour-Melville is one of the prettiest we have ever seen. The spike had seven whorls of flowers, the sturdy stem and calyces being coated with farina.—Ed.]

Early Vegetables.—Many readers of your excellent report of the great show of the Royal Horticultural Society at Chelsea, issue May 24, must have a longing to grow early vegetables when they peruse that part of it which describes the produce staged by Mr. Beckett of Aldenham House Gardens, the Thatcham Fruit and Flower Farm, Messrs. James Carter and Co., Messrs. Sutton and Sons, and other firms. Undoubtedly, the production of such forward vegetables means suitable accommodation and strict and very competent attention. I have always done my best to secure fairly early vegetables at a small cost. Early Potatoes, Radishes, Turnips, Carrots and Lettuces were grown on rubbish soils collected during the summer and winter from the potting-sheds and other places, and, being mixed with leaf-soil, were put down 1 foot to 18 inches deep on mild hot-beds in the open in early spring. Boards on edge, with Pea-sticks or laths on the top to support clean litter or canvas on frosty nights, constituted all the protection needed, and really very fine crops were secured many weeks before they could be had from the open borders. The present is a good time to commence collecting odd soils for the purpose.—Avon.

A Charming Wallflower.—Cheiranthus Allioni showed up prettily in one or two of the rock gardens at the Chelsea Show, Messrs. Barr and Sons having a particularly bright patch of it. Those who admire this cheery little Wallflower should grow also C. Arkwrightii, that is, if it is procurable, and I have an idea that it is now on the market. This plant is a cross between Allioni and alpinus, and was raised by Mr. J. S. Arkwright of Presteign. Plants sent me by the raiser a year or two back are now in full flower here, and are among the brightest little pieces of colour in my garden.—F. Herbert Chapman, *Rye.*

Davidia involucrata.—This must be a wonderful tree, by all accounts, when in bloom. Although now, I suppose, found in several gardens, it must be still quite uncommon. I bought a very small plant of it from Messrs. Lemoine, Nancy, in December, 1906. It came by post in a tiny box. The plant could not have been more than a few inches in length. Now it measures 5 feet 2 inches in height, and is exactly 4 inches in circumference at the thickest part of the stem. The singularity of the tree, and its strange beauty when in flower, would almost seem to make a journey to China worth while to see it in its home! How much we owe to the enterprise of Messrs. Veitch and Mr. Wilson! They have placed within our reach such a large number of beautiful Chinese plants and trees.—(Rev.) William W. Flemyng, *Coolfin, Portlaw, County Waterford.*

Honesty in the Wild Garden.—I am much interested in the reference to the above-named plant in "Notes of the Week," issue May 24, and also on page 276, May 31 issue. The general beauty and usefulness of the plant is not recognised as much as it deserves to be. As suggested in the notes referred to, the best place for the plants is the wild or semi-cultivated portion of the garden. The seedlings are tenacious of life, and will survive in most unlikely places. In a garden in Lancashire there is a wild portion of great extent; in fact, it encircles a small park, and has a wide strip (varying in width) of ground in which trees, shrubs, bulbous and other kinds of plants, including Honesty, grow. The latter formed irregular masses and looked charming indeed when in flower, and when the seed-shields were mature the plants were cut down and the shields gently beaten to separate them.—B.

Toads in the Garden.—Perhaps I may be allowed space to make another brief reference to the value of toads in the garden. "H. P." has a very interesting note on page 251, issue May 24. Many years ago I was told by a gardener, who for a time worked in Messrs. Dicksons', Limited, nursery at Chester, that there was a toad kept in one of the propagating-houses, and that he was greatly valued and made quite a pet of. He had lost one eye. At stated times he used to take his stroll, hop, or walk far out into the nursery grounds; but, with equal punctuality, he was back at the door of the house waiting for the attendant to come and open it, when he would go in. This toad was a very old one. I have found toads invaluable in vineries and houses where earwigs, woodlice and other insect pests were troublesome. The two I had last I accidentally killed through sprinkling an insecticide powder on them behind the hot-water pipes.—G. G.

Rose Lady Hillingdon.—My experience of this Rose is quite in opposition to the note on page 225, May 10 issue, in which doubt is cast upon the good manners of this charming variety in the open. My plant of it was put out in June, 1911, from a pot, when it gave some nice blooms quite late in the autumn. Last year, in spite of the bad season, especially in our stiff soil with so much rain, I had a lovely lot of intensely-coloured flowers. The only fault I find with its growth is that the stems and peduncles are weak. This, coupled with the weight of the full flowers, makes them droop. In this way the blooms do not show themselves so well upon the plants or in a cut state; except for the latter purpose they are neatly wired.—E. M. [The drooping habit of this Rose is undoubtedly a great drawback, but this could be tolerated if the colour were good. We have never seen blooms of really good colour from outdoor bushes in a fully-exposed situation.—Ed.]

Primula cockburniana.—It is a pleasure to receive the experience of so many of your readers with P. cockburniana, but I am rather surprised to observe that several of them appear to attach little importance to the biennial or perennial habit of this Primula. If we are to look upon it as a really reliable occupant of our gardens, we must endeavour to secure its cultivation as a perennial and not as a biennial. One knows how many really good biennials are dropped out of gardens because they either do not sow themselves well or require renewal, either by saving seeds or by propagation, by division, or cuttings. P. cockburniana does sow itself well in many places, but in others it has hardly any opportunity of doing so, and cannot be trusted to be left alone to reproduce itself. In such places, at least, it is highly desirable, surely, that it should be grown as a perennial. The multiplicity of plants which require constant propagation is quite a strain upon the resources of many places, without adding any more than can be helped. If, however, it can be proved to satisfaction that old plants are inferior to young ones, a sufficient reason for annual propagation from seeds and treating P. cockburniana as a biennial might be admitted. I am confident, however, that any who have an opportunity of seeing the old plants as grown by Mr. W. Hutchinson in the gardens of Mr. C. E. Galbraith at Terregles, Dumfries, will not be disposed to favour growing P. cockburniana as a biennial. The picture of health, free-blooming and beautiful, these plants, as I saw them a week or so ago, were superb, and much superior to small one year old plants, however well grown. We find that new plants receive more attention in the way of propagation than old ones; and that they may receive some new claimant for the limited amount of time at the disposal of the garden calls for attention in the way of propagation. But for the necessity of frequent propagation, the old double Rockets and the Mule Pinks, for example, would be all the more cultivated instead of being comparatively scarce now. P. cockburniana has the advantage over these of reproducing itself from seeds, but it should be the aim of all to have as few things as possible to raise annually, unless there are gains commensurate with the amount of time and trouble they require. Those of us who know the pressure of work in many gardens always welcome any knowledge of cultural detail which will keep it as low as possible.—S. Arnott.

FORTHCOMING EVENTS.

June 9.—United Horticultural Benefit and Provident Society's Meeting.

June 11.—East Anglian Horticultural Club's Meeting.

June 13.—National Hardy Plant Society's Show at the Royal Horticultural Society's Hall.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

Usually, cultivators possess batches of plants for exhibition—for the production of large blooms in a cut state to place on boards or in vases—as specimens, for the furnishing of the conservatory or greenhouse, and for the supply of cut flowers from the time of Dahlias to Christmas and after. These are in addition to the plants grown in the open borders. All these require a vast amount of attention and labour if they are to be quite satisfactory in due season. Many persons have ample space outside to accommodate the plants in the summer, but lack it under glass in the autumn. It is a mistake to overstock, and this is the time to make the balance.

Potting.—Throughout the month of June, growers will be busy potting some of their plants, notably those late-rooted which are being transferred to their flowering pots. Very hard ramming down of the soil must be avoided. An inexperienced cultivator, who is now growing a batch of plants in earnest, called on me a few days ago and asked me to give him a few hints about composts and potting. He said: "I have grown a few plants in previous years, but without much success; I think I pot too hard, and take quite five minutes to pot, finally, a single plant. When I turn out the soil in the autumn, the final potting compost falls away, as it contains few roots." Now, I myself have seen this condition of compost and plants. To spend nearly five minutes ramming soil down in a flower-pot is worse than time wasted. It defeats the object in view. Only moderately firm potting is needed; the Japanese varieties must not be potted quite as firmly as those of the incurved section.

Position in Summer for the Plants.—Usually, when the final potting has been completed, the plants are placed in blocks close together for a time; but they must not be left so for any lengthened period. Put them 18 inches apart in rows running north and south, and allow a space of 4 feet or 5 feet between the rows. The pots may be placed on a bed of ashes, but they are best on tiles or boards. On the latter they do well lining garden paths, where it is convenient. Specimen plants should have a position by themselves. Two rows of wires, fixed to strong stakes, will be necessary for plants that grow 5 feet and more high, and one wire for plants under five feet. Always apply water through a rosed watering-can.

Persistent Bud Formation.—Some varieties give a lot of trouble and create much disappointment through persistently forming buds instead of growing on freely. A bud shows, it is pinched out, another young shoot appears and then it bears a bud, and so on until the summer is well advanced. The only thing to do is to remove these premature buds. I have tried topping the plants—that is, pinching off about two inches—but it was not a remedy; buds still formed. Sometimes a bud at the right date may appear and be "taken," and the resultant bloom is a passable one; but more frequently the bloom develops too late, owing to the late appearance of the bud that can, with confidence, be safely "taken."

Planting-Out for Lifting.—Where pots are scarce and many plants are required for the production of cut flowers, a number may be planted—say, in the kitchen garden or on a spare plot of

ground—with the object of lifting and placing them on Vine or Peach borders in the autumn.

A Simple Way of Planting-Out.—For many years I carried out the following plan. On a bed of ashes I placed the plants 2 feet apart in rows 4 feet asunder. Only a thin layer of soil was put under the plants, but the roots were well covered with good compost, and, as the season advanced, top-dressings were added. These plants, being close to a water supply, did remarkably well, and in the autumn were readily lifted by placing a strong garden fork under each, and conveyed to the border under glass, where they did not suffer any check. The plants so treated were dwarfer than others planted out, very bushy and freely flowered. AVON.

CULTURAL HINTS ON NEW AND RARE PLANTS.

(*Continued from page* 205.)

TREES AND SHRUBS.

Davidia involucrata is a large-growing tree from China, where it is reported to form a specimen as large as a Horse Chestnut. Although only introduced twelve or thirteen years ago, so amenable is it to cultivation that there are already numerous specimens 15 feet in height and over. Well-drained loamy soil suits it well, while it also thrives in soil of a peaty character. Cuttings of both young and fully-ripened shoots may be rooted.

Pyracantha angustifolia.—This may be recognised by some people under the name of Cotoneaster angustifolia, but the former is now considered the correct name. An evergreen shrub, it makes a worthy companion to the ordinary Pyracantha, and is a contrast by reason of its yellowish or golden berries. In the milder parts of the country it may be grown in loamy soil in an open border, but elsewhere it should be placed against a wall.

Styrax hemsleyana, a new species from Szechuan and Hupeh, is likely to form one of the most ornamental species of the genus, for it has whitish bark, bold foliage, and bears good-sized inflorescences of white flowers. Like other Styraxes, it may be planted in warm, well-drained, loamy soil containing a little peat.

HARDY PLANTS.

Primula bulleyana.—Among the moderns in the Primula world this is certainly one of the most beautiful and distinct, valuable alike for vigour, for amenability to cultivation in British gardens, and for newness of colour in its own family. The predominant colour is orange, but there are also touches of apricot, buff and scarlet. The plant forms great spreading rosettes of leaves, from which the magnificent spikes of flowers, 2 feet to 2½ feet high, issue in June and July. A moisture loving species, nowhere happier than near abundant supplies of moisture in rich soils. Native of Western China, where at great elevation it is said to cover whole mountain meadows. Raise from seeds sown when fully matured.

Anemone scythinica.—This is one of the A. blanda set, and one of the most charming plants of spring. Externally the sepals are coloured a deep purplish blue, the inner row of petals being white. In a group of it both colours are seen in the picture, the contrast of intense, almost gentian blue and pure white being particularly fine. Height 6 inches to 8 inches when established; habit tufted and highly ornamental. Loves deep, rich, light, sandy soils. Abhors clay. Raised to any extent almost from seeds, which, if sown soon after ripening, first flower at eighteen months old. Flowers March-April. A notable plant, good and cheap.

Campanula Profusion Varieties.—Most growers of choice Bellflowers have not yet realised that there are two distinct varieties of this plant, and both are good for their late flowering. One has self-coloured flowers of a good blue tone, the other sky blue, mauve-shaded flowers of exquisite delicacy and charm. For their late as well as abundant and profuse flowering they are recommended. Habit trailing. Spring cuttings or division.

(*To be continued.*)

HUNNEMANNIA FUMARIÆFOLIA, A LITTLE-KNOWN PERENNIAL WITH GREY FOLIAGE AND YELLOW FLOWERS.

ROCK AND WATER GARDEN.

THE AMERICAN WOOD LILY.

(TRILLIUM GRANDIFLORUM.)

THIS year the American Wood Lily seems to have flowered with exceptional freedom in various gardens throughout the country. Not that it is in any way a difficult subject to manage, for it may be relied upon to flower more or less freely every year. Moreover, it is a most accommodating plant, for not only is it most at home in the partial shade of a woodland garden and in a cool, leafy soil, but it also flourishes as a semi-bog plant or in the drier position of a pocket in the rock garden. T. grandiflorum is one of those popular plants having the misfortune to bear a multiplicity of common names. Of the names given to this plant, that of the American Wood Lily appears to be the most appropriate, for it is a native of North America and belongs to the Natural Order Liliaceæ.

For naturalising in shady places it is well adapted, and when grown in the natural leafy soil of old woods it increases rapidly, while it does almost equally well on a deep and well-drained bed of peaty soil. Although there are a number of species, the subject of this note is unquestionably the most useful as a garden flower. The three-petalled flowers of T. grandiflorum are very chaste and snow white, fading to pale rose with age. The subject of our illustration on page 289 is that known as T. grandiflorum roseum. It is a suitable companion to the type, the flowers being of a rosy hue, deepening in colour after expanding.

A SHOWY MEXICAN POPPY.

(HUNNEMANNIA FUMARIÆFOLIA.)

THIS rather uncommon plant with bright yellow Poppy-like flowers might at first sight be mistaken for the better-known Eschscholtzia californica, to which it is closely allied. The subject of this note is the sole representative of the genus. It is a native of Mexico and takes its name after Hunnemann, a zealous botanist who died in 1837, while the specific name indicates that the plant is Fumaria-leaved. Coming from a much warmer clime than ours, it is not surprising that it should prove only half-hardy in this country. Seeds may, however, be sown in the open either in spring or autumn, and, providing protection from frost and wet is given in the winter, it will continue to grow for years, as it is of perennial duration. A fairly rich soil suits it best, and it succeeds under much the same conditions as the lovely Senecio pulchellum. Not only is Hunnemannia showy when in flower, but it is also handsome in foliage, while for planting on the sunny side of the rock garden in a pocket sheltered from cold winds it is to be commended.

THE NYMPHÆAS OR HARDY WATER LILIES.

(*Continued from page* 207.)

Varieties.—Many lovers of the Water Lily have cultivated the older hybrids and found great satisfaction therein, as I know (almost too well) by the large amount of correspondence received at various times, yet they have not ventured to add to their collections some of the later hybrids, not by any means the newest and, consequently, the most rare, but those that are comparatively plentiful. Such, for instance, as the following, viz., Nymphæa Marliacea ignea, a somewhat miniature-growing hybrid and one well suited for fountains and shallow basins, with very brilliant flowers; N. sanguinea (N. caroliniana × N. Laydekeri, Marliac), another Lily for the fountain or basin, very free-flowering; N. pygmæa Helvola (N. tetragona × N. mexicana, Marliac, 1893), quite a gem, with pale yellow flowers, the smallest of all the hybrids and another good subject for shallow water; N. odorata exquisita (Marliac, 1898), a most lovely shade of rosy pink and of moderate growth; N. caroliniana perfecta and N. caroliniana rosea, two gems in their way; and N. caroliniana nivea, a pure white form, are all of Marliac's raising. The preceding are about the best that can be chosen for the purposes indicated. Others with more vigorous growth are: N. Froebelii, raised by the late M. Froebel of Zurich. This is not a hybrid, but the result of repeated selection from seedlings raised from N. sphærocarpa rosea, and from first to last, when N. Froebelii resulted, a period of twenty years elapsed. N. James Brydon, an American-raised hybrid (N. candida rubra × N. Laydekeri, Dreer, 1902), a most profuse-flowering hybrid, and one of the most distinct, the colour being almost impossible to describe; a pinkish crimson may perhaps describe it. Its form, also, is globular, hence quite distinct, too, in this respect. N. Marliacea chromatella foliis marmoratis should be noted as a variegated form of this well-known hybrid.

I have often been asked to name some of the best and most distinct of these hybrid Nymphæas. In my opinion the following constitute the best so far in cultivation: Whites—N. gladstoneana, N. virginalis, N. Marliacea albida and N. caroliniana nivea. Pale pinks—N. Mrs. Richmond, N. formosa, N. Marliacea rosea and N. Colossea. Deeper pinks—N. Masaniello, N. suavissima, N. somptuosa and N. Newton. Yellows—N. Marliacea chromatella or N. mooreana (the last named of a deeper shade of yellow), N. odorata sulphurea grandiflora and N. pygmæa Helvola. Crimsons and shades of crimson—N. atropurpurea, N. Attraction, N. ellisiana, N. Escarboncle, N. Meteor, N. James Brydon, N. gloriosa, N. Froebelii, N. Marliacea flammea, N. sanguinea, N. William Falconer, N. Marliacea ignea, N. Robinsonii and N. lucida. These comprise thirty of the very best, so far as I have taken note of them at various times.

Enemies.—Like all other plants that are cultivated in our gardens, the Water Lilies have some enemies to contend with. The water snail is one that is, in a few waters, somewhat troublesome. The best remedy that I can advise for this is the use of finely-ground lime (not slaked lime, which is not quite so effective, I think). If very troublesome, then lower the water and destroy all that can be seen, and lime all the surface lightly before raising the water-level again. Too free a use of lime, be it noted, is prejudicial, in my opinion. Aphides will attack them at times. For this the remedy is spraying over the entire surface towards the evening, and with repeated doings if needful, selecting a dry, quiet time if possible. A mite or other small aquatic insect will eat away the leaves from the under side. For this the remedy is a well-proven insecticide at about double the usual strength of application. This should be forced under the foliage, so that it rises against the under surface of the leaves. Another and most determined enemy of the Water Lily, in my experience, has been the waterfowl of divers kinds, from the black and white swans down to the moorfowl. All grades have a liking either for the young bronzy leaves of many of the best hybrids or for the flowers themselves. The moorfowl will peck through the unopened buds of those of the highest colour; this is most provoking. Again, as I have alluded to, the same bird will appropriate the leaves of the individually small plants (these in most instances will be the choicer kinds), and this, too, is annoying, as if the leaves of the older varieties were not good enough for making their nests. Ducks will dive and peck out the hearts of small plants very persistently, while swans do a vast amount of injury in tearing off the leaves and swimming through the separate plants. Water Lilies, other than the common variety, cannot be grown as they should be where aquatic birds, large or small, predominate. The vole or water-rat is also an enemy to the crowns, and this rodent will do a lot of harm possibly before he is detected.

Cultural Hints.—In small basins and where fountains, too, are in play at times—anywhere, in fact, where the beneficial effects of the syringe can be utilised—it is well to syringe the plants overhead during hot weather and towards the close of the day. On our lake we cannot well do this, but I have raised a smile sometimes when I have said that our Water Lilies would be all the better for a good shower. If accessible and time can be given to it, it is a good plan to wade in and around the plants and remove any dead or decaying foliage, also where the leaf-growth is too thick. Old flowers can at the same time be removed. Occasionally I have noted that some leaves get scorched on very hot days. Remove these where it is possible to do so.

A BEAUTIFUL GROUPING OF THE AMERICAN WOOD LILY IN THE ROCK GARDEN.

Congenial Positions.—Failure in many instances has undoubtedly arisen through planting Water Lilies in what may be termed running water. I have found out this to be the case by the numerous letters I have received upon the subject. I have in my travels taken note of where Water Lilies establish themselves in waters that are moving to some considerable extent. I watched for them all one day on journeying up the Rhine from Cologne to Mayence. At last I found a few in what we should term a back-water, where the movement of the water was not felt. In the same way and fashion I found them in the waters behind the city of Bergen in Norway, and also upon inland lakes, but always in such positions. Upon a sheet of water well above Coniston Lake—in a mountain tarn, in fact—I found them in rather deeper water, but where there was not much movement, all the same. When in Norway I looked in vain for

varieties with any tinge of colour in the flowers. Those with this characteristic, I am informed on good authority, exist in Sweden in considerable quantity. If it were possible, I should like to see these growing. I refer to such as N. alba rosea (syn. N. sphærocarpa rosea), which I never succeeded in growing satisfactorily at Gunnersbury. Water Lilies undoubtedly prefer quiet water, not so much so as to be termed stagnant, but where there is not a great variation. If I had, however, to deal with a sheet of water that was stagnant, and was thus a source of trouble and complaint, I would plant Water Lilies there. This would, I feel, obviate the difficulty by keeping the surface of the water quieter. Too great a depth of mud is not advisable, for this would encourage leaf-growth at the expense of flowers. I have known this to occur. The ideal position for Water Lilies is, in my opinion, an open, placid lake where the sun has full influence upon the plants and the water also. A considerable variation in depth is advisable. JAMES HUDSON, V.M.H.

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FLOWER GARDEN.

SEASONABLE NOTES ON SWEET PEAS.

Disbudding.—Arising out of the decisions which have been reached by judges at great and small shows throughout the entire length of the country, it has come to be accepted that a spike of Sweet Peas for exhibition must be something approaching to 2 feet in length, and that it shall carry not fewer than four more or less floppy flowers set more or less gracefully on the stems. It is unfortunate that this should be so; but the fiat has gone forth, and no one is allowed to look at smaller, perfectly formed and arranged blooms on a shorter leg. To give the requisite length, severe disbudding of all lateral shoots must be one of the rules, and it will result in a plant that is grown purely for exhibition and not for the embellishment of the garden. The disbudding must be strictly followed up, or the desired end will not be achieved.

Watering.—No one doubts for an instant the imperative necessity of maintaining the soil about the roots of Sweet Peas pleasantly moist, but many people regard incessant watering with more than doubtful favour. And they are wise, for nothing so prejudices the progress of the plants or, in my opinion, more rapidly predisposes them to attacks of "streak" as constantly pouring cold, hard water from the main into the ground. Those who can avoid watering from start to finish save labour for one thing, and reduce the possibilities of failure to a minimum for another thing. It is, of course, difficult to reach so ideal a state, and often it is quite impossible to do so; but those who make it a rule to water only when it is necessary, and then to give enough to soak down not less than 3 feet, should find their plants continue in health. At a modest computation one would regard three gallons to the square yard as the smallest quantity, and advise five gallons on light soil.

Mulching.—Herein lies the secret of avoiding the too frequent use of the water-pot. Cover the surface of the soil with some suitable material which will keep it cool and arrest evaporation, and on naturally holding soils it will rarely be found needful to give water. It is not always convenient to provide manure for this purpose, though the preference should always be given to it, because it provides a certain amount of readily available food and serves the primary intention of the mulch. Where it is not at command, turn to the mowings from the lawn, and spread them freely from within a few inches of the stems to 2 feet outwards from them. Failing grass cuttings, secure anything else about the place that will answer the purpose in view; and when nothing can be had, rely upon incessant hoeing to create a dusty condition on the top, as this will prove excellent, though not equal to manure or grass.

Syringing.—Although it is undesirable, except under compulsion, to give water at the roots, it is indisputably advantageous to hose or syringe the plants vigorously on the evenings of hot or very dry, windy days. When arid conditions prevail, the plants lose a considerable amount of vital energy, and they are helped towards complete recovery by the treatment suggested. Not only this, but the syringing or hosing tends to increase the length of the stems.

Feeding.—When inexperienced growers see a plant in poor health or think that it is suffering from some dread disease, they promptly turn to the liquid manure tub in the confident expectation that applications of strong manure-water will restore it to health. Nothing could be further from the truth in respect of Sweet Peas or anything else. To derive benefit from special food a plant must be in perfect condition, and, given this state, a Sweet Pea will not object to a varied and generous diet. The initial point will be to see that the ground is moist, and then to use the particular manure that is fancied. There is not so much in the kind as in the manner of giving it and the variety which can be imparted. A plant will always respond more readily to a fresh food than to one that has already been given twice or thrice, and this should guide the cultivator to the desirability of finding the change that is so beneficial.

DARWIN TULIP MASSENET. A ROSE PINK VARIETY WITH AN ELECTRIC BLUE BASE.

DARWIN TULIP MASSENET.

THE outstanding feature of this variety is that it is quite distinct in colour from any other. Not that it is brightly coloured; on the contrary, it is of a somewhat dull rose pink externally and flesh-tinted within. The shading of the flower is beautiful, and affords a pleasing contrast to the electric blue and green coloured base. The flowers, perfect in form, are borne on long, stout stems. When shown by Messrs. Bath, Wisbech, at a recent meeting of the Royal Horticultural Society, this variety gained what is this year a rare distinction for a Tulip, viz., the society's award of merit.

POTENTILLAS IN THE BORDER.

THE value of the Potentilla in the border in summer is not now so much realised as in former years, although the wealth of variety offered is greater than ever before. To do them justice they should have a rich, well-manured soil, not too much subject to drought, and they ought always to be tied to stakes, unless they are planted on rockwork. The fine double hybrids are by far the best for border subjects, making large plants with crowds of their handsome, well-coloured double blooms. They are now too numerous to discuss under name, but a purchaser can hardly go wrong in selecting from a good hardy nursery catalogue. They may be had in almost every floral colour, from deepest brown, almost black, through reds, yellows and various shades, some being spotted and other almost marbled with various shades. S. A.

THE ROMNEYAS OR TREE POPPIES.

(*See full page Supplement.*)

Until about fifteen years ago only one species of the Californian Tree Poppy (Romneya Coulteri) was known to exist. Investigations made in 1898 by Miss A. Eastwood, Curator of the Herbarium of the Californian Academy, proved the existence of a second species, which she described under the name of R. trichocalyx. Both are natives of California. The exact date of the introduction of R. trichocalyx is not known, as it was in cultivation in this country as R. Coulteri previous to 1898. The first recorded flowering of the new species was in 1902, in the garden of Mr. H. C. Baker, Oaklands, Almondsbury, Gloucestershire. Differences between this plant and the familiar vigorous growths of R. Coulteri were noticed, the late Mr. George Nicholson recognising the plant as Miss Eastwood's new species, R. trichocalyx, described four years previously. In the autumn of the same year (1902) this lady sent seeds to Kew, the plants raised flowering in about twenty months from sowing.

In habit R. trichocalyx is less vigorous than R. Coulteri, producing more growths, but the stems are thinner and more leafy. The buds of R. trichocalyx are round and hairy, those of R. Coulteri being more pointed and smooth. Though quite as good a garden plant as R. Coulteri, the subject of the illustration is readily distinguished when seen growing side by side with it, as it does not possess those thick, tall stems, upright habit and the substance of the less divided leaves of R. Coulteri. R. Coulteri was first introduced in 1875 by Messrs. E. G. Henderson and Son, and as the plants seldom mature good seeds in this country, most of the seed sold is obtained from California annually.

The Romneyas are not of the plants we meet with thriving in every garden throughout the country. The experiences and successes under such widely different conditions of climate and soil are so confusing that one hesitates to recommend cultural details. Take, for example, the following letter published in The Garden of August 12, 1905, from an Irish reader: "Sir,—I send you a photograph of my Romneya Coulteri, which has been a mass of blooms for the past three weeks. The plant is growing on a wall facing south-east, and has been in its present position for eight years since I planted it, a small plant, out of a 4-inch pot. It is now over twelve feet high, about five feet wide and blooms profusely every year. The soil of my garden is light, thin, poor and hungry, and the plant has never had any assistance in the way of manure of any sort since it was planted." The most unsatisfactory soil for Romneyas is a wet, heavy clay. Those who have tried to grow the Californian Poppies in their garden and failed under ordinary conditions should try the following cultural recommendations: Choose a position at the base of a south or south-west wall, sheltered from the north and east. Take out a hole 2½ feet deep, put in the bottom a foot of brick rubble for drainage, over this place 18 inches of good sandy turfy loam, a little leaf-mould, and plenty of old mortar rubble or road grit to keep it open. This will ensure efficient drainage when the plants are at rest in winter, while ample supplies of water, including liquid manure, can be given the plants if the weather is dry in the summer. A mulching of leaf-mould or old decayed manure is also beneficial.

Romneyas may perhaps be best described as sub-shrubby, for during a mild winter the stems and foliage survive. On the other hand, severe frosts kill the stems to the ground. Though flowers may be produced by the stems which survive, by far the best display is made by the vigorous young shoots which push up from the base and smother the old growths. The average height of these in the case of R. Coulteri is from 5 feet to 7 feet or 8 feet, occasionally more. R. trichocalyx grows about three feet to five feet high. Either of these plants, with six to twelve flowers open at one time, is a most beautiful and imposing sight. The flowers average 6 inches across, with shining white petals almost like slightly crumpled satin, with a large tuft of yellow stamens in the centre. The flowers are fragrant. The flowering season is from June to October. When once planted out in the border, Romneyas should not be disturbed, for there are few plants which transplant so badly. Any interference with the fleshy roots is most detrimental to the plants, so that till large enough and the final position is decided upon, Romneyas should be grown in pots. In most gardens it is as well to place a small mound of ashes round the plants in winter to throw off or absorb excessive moisture in winter.

The easiest and most satisfactory method of propagation is from seed. If fortunate enough to procure home-grown seeds, sow them as soon as ripe; otherwise sow as soon as they come to hand, even if it is November or December. Romneya seeds are often very slow in germinating, and may not move for several months if they have been kept for some time. Cuttings made of the smaller ripened shoots in autumn which have not flowered will root under a bell-glass in light, sandy soil. They usually show little sign of movement till spring, when a few or most of the cuttings may start off. Success in propagation is also possible with pieces of the thick, fleshy roots in early spring. A plate, No. 465, of R. Coulteri was published in The Garden for November 8, 1884.

A DAINTY GREENHOUSE PRIMULA.

(Primula malacoides.)

Although of comparatively recent introduction, this dainty Primula is already a favourite, and may be found in many gardens of this country. Moreover, it is being widely grown for market—a certain sign of popularity. The flowers are of a pretty pale mauve, produced tier upon tier in a light and graceful manner. Of free and easy growth, it is invaluable for cutting and for greenhouse decoration during the winter months. It is usually grown as a pot plant, but it is surprising to note how freely self-sown seedlings under a greenhouse staging will flower when allowed to. Seed may sown any time in the summer months, preferably be in August. Sown in pans in a gentle heat, the seedlings should be potted off singly in 3-inch pots as soon as they can be handled. On no account should this Primula be coddled in a heated atmosphere. It is one of the most satisfactory of all flowers for the unheated greenhouse. There is a pure white variety now in commerce known as P. malacoides alba.

PRIMULA MALACOIDES, A BEAUTIFUL GREENHOUSE PLANT THAT CAN BE EASILY RAISED FROM SEED.

TREES AND SHRUBS.

LAURELS UNDER TREES.

At one time the planting of common Laurels under tall forest trees to hide the soil where little else would grow, owing to the drip from the trees above and the absence of light below, was largely practised, and those who did so were well pleased with the result. Of late there has been a loud outcry about the wide use of common Laurel, and in a general way it has been vigorously condemned, too often, though, without the mention of a substitute. That is, in my opinion, a poor argument. Those who condemn a practice should suggest a remedy. Now, as to the value of the common Laurel under trees, when first planted, if properly tended, manured and annually pruned, a thick green screen is quickly obtained, and remains so for many years with close attention. There, however, comes a time when the plants become "leggy," showing the soil underneath, especially round the edge of the clump, and gradually becoming untidy. The remedy is to cut down the whole of the plants to within a foot or so of the soil, when new growth will push from the stems and become a thick mass of greenery again in a few years. While this is going on, how bare and untidy this part becomes! My plan is to take away all the Laurels, trench the soil as well as the roots of the trees above will admit, and add manure freely. Plant Irish Ivy quite thickly over the plot; this will in a short time make a dense green covering. The leaves from the trees above will annually enrich the soil, giving a fillip to the growth of the Ivy. Here and there in the lightest places plant groups of Berberis Aquifolium, not less than 6 feet in diameter. In the still lighter places, plants of the common yellow Broom would succeed and certainly add variety. The growing of Ivy under the trees affords an opportunity to plant bulbs of the strong-growing kinds of Narcissus, like Emperor, Horsfieldii, Golden Spur and the old double Daffodil. I know they would not succeed so well as in the open, but a quantity of flowers would be obtained, all tending to give variety and brighten an otherwise dull part of the garden.

E. M.

A GOLDEN PÆONY.

(Pæonia arborea La Lorraine.)

Various references in praise of this beautiful Pæony have appeared in our columns in the past year. It is a remarkable hybrid Tree Pæony, raised by MM. V. Lemoine et Fils, Nancy. It is said to have originated from the crossing of P. Moutan with P. lutea. The bloom is globular in form, very full and double, and of a buff tone passing to golden yellow. When shown before the Royal Horticultural Society by Messrs. J. Piper and Sons, Bayswater, a few weeks ago it gained the exceptional award of a first-class certificate, and was proclaimed one of the most striking novelties introduced to this country this season.

THE GOLDEN TREE PÆONY, PÆONIA ARBOREA LA LORRAINE, A NEW VARIETY WITH YELLOW FLOWERS.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

In some gardens vegetables are thought more of than either fruit or flowers by the cultivator, and receive attention accordingly. The general rule is, however, that lovers of fruits and flowers also take a great delight in growing vegetables. To all those who are not well versed in their cultivation the following hints will be useful.

New Zealand Spinach.—The Spinach crop is a very important one. In some light soils, however, cultivators often find it difficult to grow the ordinary round-seeded variety—the Summer Spinach—after the middle of June. The large, succulent leaves, so much coveted, cannot be obtained, as the plants will run to seed prematurely. There is no danger of this kind in the case of the New Zealand Spinach. A well-grown single plant will cover a space of 50 square feet in a very short time, and such a specimen will bear many pecks of fine fleshy leaves. In fairly light soils there is no difficulty in getting the young plants to make good growth at this season; but in heavy, clayey loam they are rather stubborn in this respect. However, the cultivator should not hesitate to sow seeds now. The latter must be sown in drills about six feet apart, the drills being 4 feet asunder. Place a small quantity of lighter soil where the seeds are to be sown, and drop about half-a-dozen seeds, several inches apart, in it, lightly covering them, and, in the absence of rain, give water to hasten germination.

Beet in Heavy Soils.—Many cultivators make the mistake of sowing seeds of this vegetable too early. The resultant plants grow very slowly, of course, and then the roots are tough, lacking in juice and in colour when cooked. In warm soils seeds for the main crop may be sown late in April or early in May. Splendid roots will then result. In clayey soils the middle of May is soon enough to sow, but I should not hesitate to make a sowing about the middle to the end of June. In a clayey loam germination of seeds is then fairly rapid, and the roots, though small, are of very high quality, being well coloured, exceedingly tender and full of juice. If the weather and ground are both dry, pour plenty of water in the open drills; then sow the seeds and cover them with dry loam. This plan will induce quick germination.

Broad Beans.—Lovers of this vegetable—and they are legion—will not be averse to sowing seeds late in the season. Usually, one finds many rows of the plants growing apace in the spring. Some are spoiled through black aphides, and the pods of others are never gathered because there happens to be a glut. Too many seeds are sown at once, early in the year, and then, because there are Dwarf and Runner Beans and Peas in plenty, the Broad Bean is neglected. Now, a good variety of vegetables is always welcome, and in a dry season, when Peas often do badly, the Broad Bean will thrive and pod freely if grown on the north side of a wall or fence, and, moreover, in a clayey soil. Cultivators who have never tried this plan would be surprised at the satisfactory result. Seeds may be sown as late as the latter part of June and the early part of July. Early varieties must be grown. Two good ones are Beck's Green Gem and Harlington Windsor. When five or six trusses of flowers have formed, pinch off the tops, and so induce quick podding.

The Silver-Skinned Onion.—Undoubtedly this is the best variety for pickling, but it is also a fine one for pulling in a young state for eating when in that condition. Many persons like young Onions at thinning-out-time, and the Silver-skinned variety may be so used, as well as for pickling purposes. Do not sow in rich soil. A good loam without manure will do. A very poor soil manured last spring or earlier in the winter will also answer the purpose. The bulbs will grow almost one on the top of another, so that the seeds may be sown fairly thickly, and, with the exception of drawing out for eating while young, thinning is not necessary.

G. G.

A New Californian Tree Poppy: Romneya Trichocalyx.

Hudson & Kearns, Ltd., Printers, London, S.E.

GARDENING FOR BEGINNERS.

THE STAKING OF SOME HERBACEOUS PLANTS.

THE staking of plants is an important operation in the successful management of a garden, be it small or large, under glass, or in the open ground. In either case the two chief points to bear in mind are the same, namely, appropriateness and neatness. Over-staking is unsightly and as undesirable as the want of a stake is untidy and disastrous. At the same time, it should be borne in mind that no plant ought to be staked that will stand safely without so doing, for the two simple reasons that it would be waste of time and would produce a most unnatural result. Indeed, what may be called good staking often begets the latter state, but yet it must be done to save the lives of growths and flowers.

This brings me to where I want to say that some of our herbaceous subjects are suitable for a more artistic method of staking than that which is mostly in vogue. A glance at the illustration on this page will show what is meant. It is a bed of Delphiniums staked with branched, natural stakes as distinct from plain stakes, which are so commonly used; and I think few, if any, will doubt the more natural appearance of the plants as so supported when they have grown sufficiently to hide the stakes.

The latter may be put in position at one operation or two, as most convenient to the operator at the time the plants require them. For strong and tall-growing plants like Delphiniums the twice-staking practice is, I consider, the better. That is, put short, twiggy pieces of support around the rootstocks while they are short in growth; this will ensure a more compact habit, and the stakes will soon be lost to view in the upward growth of the plants. As these first stakes are outgrown, then the final ones are placed. For this purpose strong, bushy Pea-sticks trimmed into shape will do splendidly, or loppings from the thinning out of trees will answer, the kind used in the illustration happening to be winter prunings of an old Poplar tree. Whatever is used, it will be found wise not to have the stakes of a uniform height. Varying lengths of, say, 3 feet to 6 feet will be found to fit into each other better when being put in position, and these lengths will be the measure of assistance needed by average garden plants. Of course, sometimes a variety will throw up extra long spikes, or an extraordinary strong wind may prevail, in which cases resort can be made to an additional long cane or two—at any rate, that is how we meet such difficulties.

Although this form of bushy staking can be adopted for isolated plants, it is when seen in beds or large clumps of plants that it becomes most telling. The spikes stand up more free and graceful, because the general contour of the plants has been better preserved throughout their development than when bunched together with three or four stakes, and this after some of the growths have been allowed to fall about.

As mentioned above, there are other plants of the herbaceous border that can be so treated; in fact, will look much more effective if so done. Some of the more important are Pyrethrums, Papavers, Centaureas, Michaelmas Daisies (where grown in large clumps or beds), Paeonies, Erigerons, Shirley Poppies and old plants of Carnations. These and any other such growers may with advantage to their general appearance be bush-staked, remembering, as with all staking, the work is easier if begun in the early stages of growth. These lines will probably appear too late for this year's practice on some of the subjects mentioned, but a note can be made of the method for another season by those with whom it finds favour.

C. TURNER.

The Gardens, Ken View, Highgate, N.

A BED OF DELPHINIUMS WITH NATURAL SUPPORTS PLACED IN POSITION.

PARSLEY.

USUALLY too many Parsley plants are grown in a given space, with the result that the leaves are not as fine as they ought to be. Neither are they as hardy. Small leaves and thin stems will not withstand moisture in the atmosphere nor frost. Strong ones will, and these are only obtained by sowing the seeds thinly, early thinning out and the pinching off of the young point of the plant towards the end of August. The crop of Parsley for winter and spring use is a very important one, and, to ensure its success, two sowings of seeds are advisable, one about the middle of June and the other the middle of July. The seeds must be sown in shallow drills on a border protected from the north and east winds, but open to the south and west. Only use old, rotted manure in the soil. Trench the latter 2 feet deep (as Parsley roots deeply) and, before sowing the seeds, tread down the soil firmly while it is comparatively dry, if of a light nature. Thin out the resultant seedlings quite early, and at the final thinning leave the plants 1 foot apart; then they will grow strongly.

PLUNGING POTS IN SUMMER TIME.

THERE are many plants in pots placed out of doors at this season of the year and allowed to remain fully exposed to the scorching influence of the sun's rays. Plants of a permanent character, such as Azaleas and Deutzias, which are to be retained in their pots, require very careful treatment, and they well repay it. Plunge the plants almost to the rims of the pots in ashes, sand or ordinary soil, putting a tile under each pot to ensure drainage and prevent the ingress of earth-worms. Water need not be given so frequently, and the soil in each pot will be uniformly moist. If one side is fully exposed to the sun's rays, the soil on that side dries up quickly, and, in the case of peaty composts, it very often remains dry, notwithstanding frequent subsequent waterings. The result is that the roots perish, the plants lose leaves wholesale, and frequently they die. This is a good way to treat Roses, Genistas and similar plants in pots in the summer-time. It is important that the soil around the roots be kept in a regular state of moisture without much watering.

B.

PLANTING DAHLIAS.

THE first week in June is the accepted time for planting Dahlias in the open. This work, however, like most other gardening operations, is governed by circumstances, and it is never advisable to work entirely by rule of thumb. The ground in which Dahlias are to be planted should have been selected and thoroughly trenched in the winter, and again turned over and manured in March. It is most important that the plants should be well hardened off before planting out, and this is best achieved by placing them in a cool frame. If unable to put newly-purchased plants in a frame, they may be planted out on arrival from the nursery. Under such circumstances it is advisable to cover the newly planted arrivals at night with pots or boxes.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Summer Bedding.—It is now safe to put out all the more tender plants, including Begonias and Coleus, although it should be borne in mind that a little shelter for a few days after planting will assist the plants to become established.

Watering.—Even though the beds are moist at the time of planting, a few days' sun or drying wind causes a considerable strain on the plants, and a good watering or two may be necessary to keep them going till they root into the soil in the beds. When once they are well rooted, too free an application of water is apt to make such subjects as Geraniums very sappy, which is detrimental to their flowering freely.

Staking.—Tall-growing subjects, such as Fuchsias, Abutilons and Helianthus, should be securely staked at once, not leaving them till they have been injured by the wind, and the less obtrusively this can be done, the better it is for the appearance of the garden generally.

The Pleasure Grounds.

Bulbs.—By this date Crocuses will have commenced to dry down, and, for the sake of tidiness, patches where they are planted under trees should be mown over, using the scythe, following a few days later with the machine. Early-flowering Narcissi also will soon be turning yellow, and the same system of mowing may be adopted; but it is not wise to do this too early, or the bulbs will suffer.

Sowing Biennials.—Sweet Williams, Canterbury Bells, Anchusa and Delphiniums should now be sown, and where the ground is heavy it is wise to prepare a bed for them of old potting soil, or they may be sown in boxes, to be pricked out in beds as soon as the seedlings are large enough to handle.

Violas for making a spring show should now be sown, and where cuttings of named varieties do not come through the winter well, these seedlings are very useful, and make a really good show during April, May and June.

Rock and Water Garden.

Now that some of the early spring plants, such as Arabis, Aubrietia and Iberis, are going out of flower, it may be advisable to trim these back somewhat, so that they do not get out of proportion to the surrounding plants. Such subjects are often planted in greater quantities on new rockeries than it is desirable to have as a permanency, so they must be either cut back or pulled up to allow the proper development of the more choice and permanent occupants of the rock garden.

Aubrietias.—The choicer varieties may be propagated by taking off the soft-growing tips and pricking them out in boxes or pots in the cold frame, keeping the bright sun from them till they hold up their heads well, by which time they will probably be rooted. Two light varieties that please me much are Lavender and Bridesmaid, the flowers in each instance being large and the habit of the plants good.

Plants Under Glass.

Humea elegans.—The inflorescences of this decorative plant will be greatly enriched in colour if the plants are stood out of doors in a semi-sheltered position; but care must be taken with the watering, as if once the plants are allowed to get very dry, the foliage will turn yellow. The seedling plants should now be ready for potting off, giving them the benefit of an intermediate temperature till they are established, when they may be removed to a cold frame for the summer months.

Capsicums or Peppers.—These, if sown and potted off as advised in previous calendars, should now be ready for their fruiting pots. For the smaller ornamental varieties 6-inch pots are quite large enough, but for the larger edible varieties 8½-inch pots are best. A good, rich soil should be used, making it rather firm in the process of potting. A fairly warm temperature will suit them best for a time, using the syringe freely to keep down insect pests.

The Vegetable Garden.

Peas.—About this date a good batch of late Peas should be sown, selecting the varieties that do best in the particular locality in which one is situated. Gladstone and Autocrat are recognised as two standard varieties, and on heavy soil I have found the latter to do exceptionally well.

Early and Midseason Varieties that are podding should, in the event of dry weather, have a good soaking or two of manure-water, and on very light soils a mulching of short manure, well watered in, will greatly help them.

Fruits Under Glass.

Melons.—No time should be lost after the early batch of fruit is cleared in getting a second crop planted, giving the house a wash down and clearing out most of the old soil; this ensures a clean start, and certainly a greater chance of success, if fresh soil is given for each succeeding batch. When planting at this season, a little shading may be necessary for a few days; but it should not be left on longer than is necessary, as there is more difficulty in setting the fruit when the growth is unduly rapid and soft.

Hardy Fruits.

Strawberries.—The early batches on warm borders are now showing colour, and protection should be given from the birds. Wherever possible, the nets should be raised high enough to walk under, and thus save a lot of trouble when gathering commences. Later batches in the open should have the trusses slightly raised from the ground by means of wires or strings running the length of the rows. This is especially desirable on two year and three year old plants, as, the fruits and foliage being thicker, there is a greater tendency of the fruit rotting during a spell of bad weather.

Raspberries coming into bloom will be benefited by a good soaking or two of manure-water or a light mulching of manure, giving the ground a good hoeing first. Suckers taken off at this time and planted at once often make good canes by the autumn, though care should be taken when lifting to secure as much root with them as possible, and this method of making fresh plantations I consider preferable to planting matured canes during the autumn and winter.

THOMAS STEVENSON.
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Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Propagating Pinks.—This work may now be carried out, and is quite simple. Pull the young shoot backwards, thereby securing a heel, although this is not absolutely necessary; trim off the lower pair of leaves and make the cutting in the ordinary way. Insert in boxes of sandy soil which has been pressed firm, place in a close frame and shade from bright sunshine till rooted.

Border Carnations.—These should now be making vigorous growth, and will be benefited by a dressing of soot, after which run the hoe through the bed or border. Attend to tying, or if coil stakes are used, attend to training.

Bearded Irises.—Here we have a border devoted to these attractive flowers, except that we have a few plants, such as Marguerites, Hyacinthus candicans and Chrysanthemums, dotted in among them. I think they look best in a mass thus. They will now be coming into bloom, and this is a good time to rename them, as in the case of misplaced labels or obliterated writing, identification is comparatively easy now.

The Rock Garden.

Planting Primulas.—There is now a great variety of Primulas available for the rock garden, and if watering is attended to there is no better time for planting new stock or moving that already in hand than just after the flowering period. P. japonica, sikkimensis, rosea, Sieboldii and a few others require moist conditions, and must be planted at the base, but those of the nivalis and marginata type prefer drier conditions. Good yellow loam will suit any of them.

Polygala Chamæbuxus. — Let me strongly recommend this beautiful little sub-shrub to those who do not possess it. Its fragrant, Pea-like flowers of cream and purple, borne in racemes, last many weeks.

The Rose Garden.

Mildew.—The rosarian must ever be on the alert for this enemy. Sulphur is the enemy of all fungi, and this in particular. Spraying with liver of sulphur will prove effectual.

Watering.—Being deep rooters, Roses once established rarely require watering, except on very light soils. Spring-planted stock, however, require close attention, and should be well watered if drought sets in.

Plants Under Glass.

Seedling Begonias.—Seedling tuberous Begonias that have been pricked off into pans or boxes and seem to require potting up will do far better if planted out in a frame in rich, flaky soil. Here they will make rapid growth, and when they begin to show flower they can be potted up into 4-inch or 5-inch pots, in which they will make a good show in the front of the conservatory stages during the autumn.

Begonia semperflorens.—The popular winter-flowering Begonias have put some of the older species in the shade, but semperflorens and its varieties, such as rosea multiflora and Frau Maria Brandt, should not be overlooked. Spring-struck plants will now be ready for potting up into 5-inch pots. Loam, peat, leaf-mould and sand form a compost that suits them.

Hard-Wooded Plants. — Acacias, Cytisuses, Epacrises, Deutzias and most hard-wooded plants should now be stood out of doors for the summer, and with the exception of Deutzias, which require all the sun they can get, they are better shaded from the midday sun. Any necessary pruning should now be attended to. Plants of Azalea indica should be left in a little heat till the flower-buds have been well formed.

Fruits Under Glass.

Pot Fruits.—These will now require close attention in the matter of watering, as trees often require to be watered twice a day in hot weather. Feeding should also be continued, seeing to it that the food contains a fair amount of potash and phosphates.

The Cape Gooseberry, or Physalis edulis, finds favour with some families. It is easily grown, succeeding well on the back wall of a vinery. It can either be raised by seeds or cuttings. It is a rapid grower.

The Hardy Fruit Garden.

Training Peaches.—Extra vigorous succession shoots should be nailed in, while those that are rather weakly may be allowed to grow at will for some time. By such means the balance of growth will be maintained.

Syringing.—Peach and Nectarine trees, and all trees on walls planted last autumn or spring, should be well syringed in the afternoon during hot weather. If green fly is present, put some XL All Liquid Insecticide into the water.

Watering.—Wall trees, especially those on south walls, must be watered at the root if the border becomes dry, and as the temperature of the soil will be pretty high, the water should be slightly warmed prior to its being applied.

The Vegetable Garden.

Early Cauliflowers.—These will be turning in for use in the course of a week or so, and if they turn in rather rapidly, they can be lifted and laid in behind a north wall, or cut and their bases stood in flat vessels containing a few inches of water, to be stood in a cool house or shed. If clubbing appears, water with a little nitrate of soda or with common saltpetre at the rate of 1oz. to a gallon of water.

Broccoli.—It will pay to lift the young seedlings from the seed lines and prick them out 3 inches apart in fine soil, leaving them there until it is time to plant them out in their permanent quarters.

Broad Beans.—Draw some earth up to the later sowings, and top early crops to facilitate the filling of the pods.

Jerusalem Artichokes.—If not already done, ease up the soil between the rows with the digging-fork, and earth up in the same way as Potatoes are earthed up.

Kidney Beans.—A late sowing should now be made, and it will be advisable to use an early variety, such as Ne Plus Ultra. Earth up the earliest sowing when 6 inches high.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NOTES ON TULIPS.

I FEAR I rather digressed last week in describing the striped (or broken) Tulips, for I did not confine myself altogether to those varieties which were actually in the Chelsea Show. I wish to remark that my selection as there given must not be taken as including all the very best. In passing on to the Darwin and Cottage varieties, I feel I must comment on a note that recently appeared in one of the gardening weeklies, in which the writer rather scoffed at this division, and said it was rather absurd, and that both ought to be simply called late flowerers. I frankly admit that there are a fair number of the Cottage which are very much on the borderland, and also that perhaps it is somewhat pedantic to refuse to call any bizarre (such as Jaune d'Œuf and Clio) a Darwin. All the same, I hold that these designations do mark off distinct types, and that it is helpful and not harmful to retain them. Some spring I hope to see the Royal Horticultural Society holding a Tulip conference with the co-operation of some of the best Dutch authorities. The tangle of names is now very bad indeed, and I feel sure any attempt to unravel it would be greatly appreciated by amateurs and traders alike. But to get to the immediate purpose of these notes. I will commence with the Darwins. Among those not very much known I singled out the following: Louise de la Vallière, a lovely rosy pink, with a blue base—practically a self, large, well-shaped bloom, much more of a pink than the well-known Mr. Farncombe Sanders. Near to it, on Messrs. James Veitch's stand, was a smaller but quite as beautiful a flower, Pomona; it was still further removed from Mr. Farncombe Sanders in the rose pink direction. It looked as if it had had a thin wash of salmon colour all over it; it had a white base, edged blue, and on the three exterior petals there was a deeper flame of the same tone. The Bishop, a large flower of singular charm, attracted, so the attendant told me, much attention in Mr. C. Bourne's collection. I, personally, do not wonder at it, for it is one of my own special favourites among the purples, and is invariably singled out by visitors to my garden. The interior of the petals is a rich, glowing, true purple, while externally one gets the impression of the same colour seen through a thick grey veil. With age the purple develops and takes on a decided blue tone. The plant is tall, with a fine thick stem. Julie Vinot (syn. Princess Elizabeth) is a pretty shade of rose, which at the edges of the petals passes away to a blush. It has a clear white base, and is of the flat-sided shape that is seen in Orange King. It has the reputation of standing bad weather well. Moralis was in nice condition in Messrs. A. Dickson and Sons' gold medal group. It is a clean-cut flower of deep rich plum, with a decided "bloom" on the outside of the petals. It is a tall grower; one of the best of the very dark selfs. I was glad to renew my acquaintance with the pretty rosy scarlet Sweetheart. It is very nearly like Mr. Farncombe Sanders in shade, but not such a large flower. Its special charm and distinction consist in its beautiful pale blue base, which is quite away from almost every other variety. A flower which was new to me was Prima Donna. I always call this type in my own mind "edgers." Its three exterior petals have a broad flame of rich rose red, which is edged with warm flesh colour. In the early days of last century there was a certain class of Tulips called Baguets (see "The Florists' Directory," by James Maddock, 1792), or drum-stick flowers. Prima Donna would have qualified for one of these, on account of its stem, which is exceedingly rigid. I spent a delightful hour or two on one of the mornings of the show in the company of Mr. P. R. Barr, going into the similarities and differences of some of the rather-alike varieties. We found out, what I had always suspected, that Massenet and The Dove were one and the same thing. We also took round some blooms of Pensée Amère and compared them with those of La Tristesse and Remembrance. While there is more red in the composition of the former, we found the latter very similar, only it had not such a clean look, owing to its dull, smoky base and the duller edging of the petals. These are three of the silvery purples, a fourth being Ronald Gunn, a truly magnificent example of the type. With the mention of Nauticus my Darwin list must end. Its first merit is that it is one of the less expensive kind; its second is its large size and pleasing shape; its third is its colour, which is rather a nice shade of rose. It attracted my attention when I was over in Holland this spring, and I was glad to see it staged at Chelsea. It should be more widely grown. It lasts well and is particularly bright when first open.

Among the Cottage section I would call special attention to Monument (syn. Panorama or Friday). It is a fine bold flower of a good shade of orange red, exceedingly effective when planted near a good yellow, such as Mrs. Moon or Parisian Yellow. A flower of much the same tone of red is Lucifer. Here, however, the three inner petals are far more orange than red. This, as it always does, gives it a lighter look *en masse*. Its yellow base also tends to the same end. Gondvink is the king of the yellowy brown shades. Tall, of good proportion, free flowering, it commands instant attention, and few, if any, ever go round my garden without bestowing a word of praise upon it. It is the largest, tallest and most richly coloured of all the browny yellows. During the first day Messrs. Barr and Sons displayed their beautiful Cassandra. It is an exceedingly bright rose in colour, of medium size and height, and, as I know by experience, one of the most lasting of Tulips. It flowers on the early side. I also saw a vase of Albion (syn. Ada). It is a Tulip whose charms do not develop until it has come to a certain age. But from that time onwards it is a bloom of great refinement, pure white, with a halo of pale mauve round the interior of the base. In a room it must be placed below the level of the eye to see its full beauty. Last year, when I was honoured by a visit from the head of Messrs. Sutton and Sons' bulb department, that gentleman picked it out as one of the most pleasing in all my collection.

My final paragraph must be devoted to the recrudescence of the old florist breeder in Holland. All the large trade gardens there have a quarter where these are grown in collections. With some of these we are more or less familiar—Goliath (syn. Kingscourt and Cardinal Manning) is fairly well known, and appeared under one name or the other in several places. It is a curious blend of mauve and rose, which changes to an almost pure orange at the extreme edges of the petals. It is a tall grower and an attractive flower. A goodly proportion of those that are classed as Dutch (?) breeders are purples or deep mauves. Some, such as Bacchus, Mariana, Fabius and De Zwyger, are *very* fine indeed; but there—I am off the line again. They were not at Chelsea, and I must not describe them. JOSEPH JACOB.

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

INJURY TO PHLOXES (*I. H.*).—The Phloxes are attacked by the stem eelworm, Tylenchus devastatrix, and it is this which is causing the mischief to the plants. It would be well to remove and burn the affected shoots, and give the soil around a dressing of sulphate of potash. It is a difficult pest to eradicate when once it has gained a footing, and we fear spraying will do very little indeed in this direction.

LILY DISEASE (*A. W.*).—The Lilies are attacked by the Lily disease, for which no cure is known. The diseased shoots should be removed, for that will lessen the danger of the bulbs being attacked, and at the same time we would recommend you to remove the top layer of the soil to the depth of 3 inches or so, replacing with fresh soil in which some old mortar rubble has been mixed. The Lilies should be in a place sheltered from winds, and as free as possible from late frosts.

FRUIT GARDEN.

BLACK CURRANT AND GREEN FLY (*E. P.*).—The Black Currant is attacked by aphis or green fly. Spray with Quassia and soft soap as soon as you possibly can, and in the evening.

PEAR-LEAF BLISTER (*R. A.*).—The Pears are attacked by the Pear-leaf blister mite, but if they are all as bad as this we cannot recommend the cutting off of affected foliage, as we should do if the attack were a slight one. Spraying in winter with a lime sulphur salt wash is the best thing to do, and spraying now with a nicotine preparation may do some good.

PEACH-LEAF BLISTER (*S. G.*).—The Peach foliage is attacked by Peach blister. It is due, in the first place, to the presence of a fungus in the tissues. This fungus lives through the winter in the shoots which were attacked in the previous year, and it is therefore necessary to remove these as soon as the attack is seen to commence. At the same time the trees should be sprayed with ammoniacal copper carbonate. Cold winds and damp situations lay the plant open to attack more seriously than if the external conditions are satisfactory. Every care should be taken that the trees are protected as thoroughly as possible from exposure to these contributory causes.

KITCHEN GARDEN.

TOMATOES DISEASED (*Salopian*).—The Tomatoes are attacked by the fungus Fusarium. The spores of this fungus inhabit the soil, and to avoid its attacks the best method is to sterilise the soil by heat.

LETTUCE FOR EXAMINATION (*F. B.*).—The spots on the Lettuce leaves are not due to the attack of any insect or fungus, but to the accumulation of the reddish cell sap, which you will see is distributed all over the leaves in certain spots to a greater extent than usual. This is probably a result of these portions of the leaves being exposed to a lower temperature through winds catching them, or something of that kind, than were the other parts.

MISCELLANEOUS.

LARVÆ TO NAME (*K. M.*).—Several grubs had evidently been enclosed, but only one remained, with the broken parts of two others. The living one had killed and eaten the others. It was the larva of a ground beetle (Carabus), an extremely useful insect, as it devours others that are noxious to plants.

LARVÆ FOR IDENTIFICATION (*A. B.*).—We found only one of the grubs you mention and the mangled remains of two others. These were all the larvæ of carnivorous ground beetles, which devour many foes of garden plants, and are among the gardener's best friends. Nearly all carnivorous insects are active and have large jaws, while those that destroy garden plants are usually sluggish and have small jaws.

TO ERADICATE GARLIC (*S. R.*).—The only way to clear ground of Garlic is to keep the Garlic hoed up as often as it appears, never allowing the leaves or the flowers to appear. By repeated cutting down in this way the plants are gradually weakened and eventually killed. If, however, the leaves are allowed to develop, the bulbs are fed, and there is the greatest difficulty in stamping the weed out. It will probably take several years to clean the ground thoroughly.

NAMES OF PLANTS.—*Robin Hood.*—Small flowers of Tulipa gesneriana spathulata.——*A. B.*—1, Cupressus pisifera squarrosa; 2, C. p. plumosa aurea; 3, C. lawsoniana; 4, C. lawsoniana variety; 5, C. l. erecta-viridis; 6, Lithospermum prostratum.——*W. H. O.*—1, Saxifraga cæspitosa; 2, Silene pendula; 3, Sedum spurium.——*E. L., Crouch End.*—1, Pyrus torminalis (Wild Service); 2, Sequoia gigantea.——*L. B. W., Wells.*—1, Saxifraga muscoides; 2, S. decipiens Rhei; 3, S. Geum; 4, S. umbrosa punctata; 5, S. Geum crenatum; 6, S. rotundifolia; 7, S. lindleyana; 8, S. Andrewsii ——*G. G. G.*—1, Saxifraga trifureata; 2, S. sponhemica, 3, S. cordifolia; 4, Litho. spermum prnstratum; 5, Saxifraga rotundifloia, 6. Veronica Teucrium dubia; 7 and 8, Phlox subulata variety

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

THERE was a floral display of unusual brilliance at the fortnightly meeting of the above society, held at Vincent Square, Westminster, on Tuesday last. Hardy flowers, such as Irises, Pyrethrums, Pæonies and Lupines, created a gorgeous display of colour, equalled only by the banks of Sweet Peas and Roses arranged on all sides. Greenhouse flowers were likewise well represented, Pelargoniums, Fuchsias, Schizanthuses and Orchids being among the most conspicuous.

ORCHID COMMITTEE.

Present: J. G. Fowler, Esq. (chairman), Sir Harry J. Veitch, Messrs. J. S. Moss, J. W. Potter, Gurney Wilson, R. A. Rolfe, F. Sander, S. H. Low, F. Menteith Ogilvie, J. Charlesworth, J. Cypher, W. H. Hatcher, G. Hunter, W. H. White, W. Bolton, R. B. White, de B. Crawshay, S. W. Flory, A. Dye, J. E. Shill, T. Armstrong and C. H. Curtis.

Following so soon after the great Spring Show, one hardly expected to see such an extensive display of Orchids.

From Mr. H. S. Goodson, Fairlawn, Putney, came a comprehensive collection of Cattleyas, Odontoglossums, Miltonias and others in season. Among the gems of the collection were Odontoglossum amabile roseum, O. lambeauianum and Cattleya canhamianæ. A number of Cymbidiums and Oncidiums with long, arching sprays of blooms were shown in the background. It was a highly creditable group, admirably staged, and worthy of the society's gold medal which it received.

Messrs. Charlesworth and Co. showed a little group of choice Orchids, including Miltonia vexillaria Empress Auguste Victoria, of a deep rosy pink colour. Silver Banksian medal.

Messrs. J. Cypher and Sons, Cheltenham, showed the delicate Oncidium pulchellum, with Dendrobiums and Miltonias in variety. Silver Banksian medal.

Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, staged an admirable collection of Cattleya hybrids, also Bulbophyllums, Dendrobiums and Odontiodas. Silver Banksian medal.

A similar award was made to Mr. E. H. Davidson, Twyford, for Odontoglossums and Cattleyas. A grand plant of Odontoglossum Aireworthii Orchid Dene variety was included, and gained an award of merit.

Messrs. Hassall and Co., Southgate, had a fine array of Oncidium serratum, together with such interesting species as Odontoglossum Uro-Skinneri, Aerides crispilabia and Trichopilia backhousiana. Silver Banksian medal.

Messrs. William Baylor Hartland and Sons, Cork, sent a fine lot of Odontoglossums and Cypripediums, which looked none the worse for their journey across the Irish Channel.

A number of Odontiodas, including the beautiful Vuylstekeæ and rosefieldense, were shown by Messrs. Armstrong and Brown, Tunbridge Wells. Two fine plants of the green-flowering Cœlogyne pandurata and a number of Brasso-Cattleyas were also shown. Silver Flora medal.

Messrs. Sander and Sons, St. Albans, had a fine lot of Miltonias, of which Empress Auguste Victoria, with very large rose pink flowers, was conspicuous. The deep yellow of Anguloa Clowesii lent a pleasing tone of colour among a brilliant array of Cattleyas and Masdevallias. Silver Flora medal.

FRUIT AND VEGETABLE COMMITTEE.

Present: A. H. Pearson, Esq. (chairman), and Messrs. J. Cheal, E. Beckett, H. Hooper, P. W. Tuckett, W. Divers, C. G. A. Nix, J. Davis, A. R. Allan and A. Bullock.

The only exhibit before this committee was that of a collection of Lettuce from Messrs. Carter and Co., Raynes Park, S.W. The Lettuce were all of the Cabbage variety, and arranged in beds just as they might be growing in frames or a border. The varieties shown were Holborn Standard, Continuity, Victoria, Harbinger, Brown Dutch, Marvel and Grand Admiral. Silver Banksian medal.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. C. T. Druery, J. Green, B. Crisp, T. Stevenson, C. Blick, W. A. Bilney, R. C. Notcutt, J. W. Moorman, R. W. Wallace, C. R. Fielder, J. W. Barr, E. A. Bowles, F. Page-Roberts, J. Dickson, C. Dixon, J. Jennings, J. T. Bennett-Poe, Charles E. Shea, W. Cuthbertson, W. P. Thomson, E. H. Jenkins, W. J. James, E. Mawley, J. F. McLeod, G. Paul, A. W. Watkins, W. B. Cranfield and R. Hooper Pearson.

Messrs. Gunn and Sons, Olton, Warwick, displayed an admirable lot of herbaceous Phloxes in distinctive colour shades, showing these plants to perfection so far as this is possible in the forced plant. Mauve Queen, Flora (white and pale mauve), Frau Antoine Buchner (white), Elizabeth Campbell (salmony pink), Le Mahdi (violet), Beauty of Arden (lilac pink), G. Strohlein (fine scarlet) and General Van Heutz (also scarlet).

Messrs. W. and J. Brown, Peterborough, had a small group of Gaillardias, Dianthus Napoleon III., Heucheras and a semi-double Rose of considerable promise.

Mr. C. W. Chantler, St. Mary Cray, Kent, set up a collection of Flag and other Irises, in which many good varieties were seen.

Messrs. Artindale, Sheffield, had a sumptuous group of Poppies, Pyrethrums, Eremuri and Lupines, the first-named being particularly good and in variety.

Baker's, Wolverhampton, showed alpines on rockwork, Dianthus Napoleon III., D. salmonea, Wahlenbergia vincæflora, Primula capitata and choice Saxifrages and shrubs being noted.

Mr. Charles Blick, Hayes, Kent, staged border Carnations in excellent form; handsome flowers in many colours. Cecilia (yellow, very fine), Salome (fancy heliotrope variety, perhaps the best of its class), Skirmisher (buff ground fancy), Dora Blick (the finest buff self extant), Mrs. Warton (clear apricot self of distinct shade) and Elizabeth Shiffner (pale buff self) were among the best in a grand lot.

Messrs. Reamsbottom, King's County, Ireland, again exhibited their fine strain of St. Brigid Anemones.

Mr. L. R. Russell, Richmond, had a small group of Ivies, Acers, Olearias, Ceanothuses and other plants. Nertera depressa was very charming.

Messrs. Barr and Sons, Covent Garden, had a group rich in Flag Irises, Lupines, single Pæonies, Ranunculi, Spanish Irises and other showy plants of the moment. Lilium colchicum was very fine.

Messrs. Dobbie and Co., Edinburgh, displayed Sweet Peas and Antirrhinums, and for effect and garden display the latter undoubtedly took the lead. Naturally, the twain had been grown under glass, though the immediate result of this is to show what is possible with these easily-grown, easily-raised plants for the longest possible period. There is gracefulness and charm in these taller spires of the Snapdragon that endow them with great decorative value, and as the idea is unpatented, it may be copied by all. White Queen, Yellow Queen, Defiance, White Beauty, Cottage Maid, Amber Queen and Moonlight were among the best.

Messrs. R. H. Bath, Limited, Wisbech, had a pretty display of Sweet Peas, together with a larger, showier group of late-flowering Tulips and Pæonies.

Messrs. W. J. Godfrey and Sons, Exmouth, had a showy table of their art shades of Poppies in variety, also fancy and Regal Pelargoniums. The latter are not frequently shown, though they have an ornamental value of their own in the conservatory at this season.

Messrs. Kelway, Langport, arranged quite a feast of Pyrethrums, Pæonies, Lupines and Larkspurs, the two former largely predominating. Of single Pyrethrums, Ringdove and James Kelway were good. Of doubles, Aphrodite is still without a peer among the whites, and Lord Rosebery (crimson) is the equal of any we have seen of this shade.

Messrs. Stuart Low and Co., Enfield, showed Malmaison and other Carnations in capital form, Lady Coventry, Princess of Wales, Princess Juliana, Carola and Baroness de Brienen being among the best.

Messrs. J. Cheal and Sons, Crawley, showed cut Rhododendrons, Olearias and other shrubs.

Messrs. G. Jackman and Sons, Woking, staged Irises, Lupines and other plants, their finest specimens being Iris pallida Princess Beatrice and I. p. Leonidas, both noble varieties.

Messrs. G. and A. Clark, Limited, Dover, displayed some good groups of herbaceous things, nothing more stately or imposing perhaps that Iris Ricardii, which is of the pallida set. Thalictrum Delavayi was very charming, Geums Mr. J. Bradshaw and Mrs. Bradshaw being also well shown.

Messrs. G. Paul and Sons, Cheshunt, had an interesting gathering of single Roses, with such quaint things as viridiflora and others.

Mr. Amos Perry, Enfield, had an extensive exhibit of Irises and Poppies, together with Thalictrum aquilegifolium album, which was very fine. Of the Poppies, which created quite a blaze of colour, Orange Queen, Mrs. Perry, Perry's Unique (intense scarlet with deeply-cut petals), Menelik (deepest crimson) and Crimped Beauty were excellent. Onosma echioides was also well displayed.

With arching Fuchsias overhead, and Irises, Nemesias and other flowers beneath, Messrs. James Veitch and Sons, Limited, Chelsea, formed a perfect avenue of flowers. The Gloxinias Veitch's Giant Strain were magnificent in white, violet, blue and reds of many shades, spotted varieties in abundance and others making a glorious display. The plants teemed with buds as well as with giant flowers. Irises, Nemesias in variety, the pretty white Gilia dichotoma and other plants in variety made a brilliant show.

Messrs. B. R. Cant and Sons, Colchester, had a fine group of Rambler Roses—Hiawatha, Dorothy Perkins, White Dorothy, American Pillar, Blush Rambler, Lady Godiva (pink) and Sweet Pea (a single blush white variety not yet in commerce).

Messrs. Piper, Barnes, showed many well-flowered Wistarias in white and mauve, a few plants of multijuga being noted.

Araucaria excelsa Silver Star was well displayed in a ground group by Messrs. Rochford, Turnford Hall Nurseries, near Broxbourne. It is a prettily-marked variety with white tips.

Mr. James Box, Lindfield, Sussex, had a capital show of herbaceous plants, Poppies, Pyrethrums, double white Rocket, Anemone sulphurea, Columbines, and a glorious lot of Pæonia albiflora grandiflora (a pure white, delightfully fragrant flowered plant enriched by a tuft of yellow anthers). It is a plant for everybody who gardens in the open air.

Messrs. William Fells and Son, Hitchin, had an arrangement of alpines on table rockwork, Primula cockburniana, Achillea argentea, Phlox pilosa, Primula sikkimensis and Onosma taurica being among the best. Primula bulleyana was also good.

The Misses Hopkins, Shepperton, showed many alpines and herbaceous plants on tabling, Achillea Clavennæ and Primula sikkimensis being noted.

Messrs. Whitelegg and Page, Chislehurst, had good masses of Heucheras, Geum Mrs. Bradshaw, Wahlenbergia vincæflora, together with plants of Habranthus pratense. The Heucheras were very fine, one brilliant-flowered variety, Scarlet Seedling, calling for special remark.

Mr. Clarence Elliott, Stevenage, had one or two fine masses on his rockwork exhibit. The finest thing was a mantle of Campanula Stevensii, which must have contained many hundreds of flowers. Myosotis rupicola and Arnica montana, the latter not in very good form, were also noted.

Messrs. Peed, West Norwood, showed Gloxinias of a very good strain.

Carnations and Gladioli were well displayed by Mr. J. D. Webster, Chichester, who also had a very handsome vase of the yellow Calla Pentlandii.

Messrs. T. S. Ware, Limited, Feltham, displayed a group rich in Eremuri, Pæony, Iris, Lupine and other showy things, while such pretty free-growing alpines as Linaria pallida, Stachys corsica, Asperula hirta, Sedum pilosum and alpine Phloxes were employed with considerable freedom.

Baker's, Wolverhampton, had finely-flowered plants of Primula Lissadell Hybrid, P. bulleyana and P. sikkimensis.

Messrs. R. W. Wallace and Co., Colchester, had a table largely made up of Irises, of which Caterina, Kashmir No. 1 and pallida dalmatica were three of the finest. Eremuri, Lilies, Pentstemon utahensis (fine blue), Calochorti and many other plants were shown.

Messrs. Bunyard, Maidstone, had a particularly showy exhibit of Pæonies, Poppies, Pyrethrums, Lupines, Lilies, Wahlenbergia vincæflora and a fine grouping of Irises. A whole tableful of very showy plants.

Messrs. S. Bide and Sons, Farnham, had some three dozen vases of Sweet Peas in the leading sorts, such varieties as Edrom Beauty, Walter P. Wright (mauve) and Melba showing good culture.

Messrs. Cutbush and Sons, Highgate, showed a fine lot of Carnations and Rambler and other Roses, Joan of Arc, a new white Polyantha, being most charming. Lilies, Watsonias and hardy Cypripediums were also features of a good group, and were well grown.

Messrs. H. B. May and Sons, Edmonton, displayed a fine table of Ferns of a mixed character, Pteris, Adiantum, Davallia, Polypodium, Gymnogrammes and the like.

Mr. Maurice Prichard, Christchurch, showed Pæonies, Poppies, Primula bulleyana, Wahlenbergia vincæflora, and good masses of Androsace lanuginosa Leichtlini and Incarvillea grandiflora.

Messrs. James Veitch and Sons, Limited, Chelsea, displayed a magnificent lot of standard Fuchsias, admirably grown and flowered, above a groundwork of Calceolaria Clibranii. Pans of the choicer Primulas, littoniana, the new Excelsior, bulleyana, capitata, Mrs. R. V. Berkeley and sikkimensis were all well shown.

Mr. A. G. Waley, Stone House, Reigate, Surrey (gardener, Mr. M. A. Dobson), displayed a pyramid of Schizanthus in great variety in admirably-grown plants. They were magnificently flowered throughout.

From Messrs. Sutton and Sons, Reading, came a superb collection of Aquilegias of the long-spurred strain. The colours included rich orange, pink and blue in a great range of colour tones, all of which come true from seed.

H. J. Talbot, Esq., Little Gaddesden House, Berkhamsted, sent a group of Stock Beauty of Nice, a pink-flowered variety. The plants shown were about three feet in height and profusely flowered.

From Messrs. Carter Page and Co., London Wall, came Violas, Pelargoniums and Dahlias in great variety.

Messrs. G. and W. H. Burch, Peterborough, showed Roses in variety. Mrs. Foley Hobbs, a new sort, was shown in great form.

Mr. H. Burnett, Guernsey, was represented by a magnificent collection of up-to-date Carnations. The deep crimson Carola was much admired.

Tuberous Begonias, Gloxinias and Aquilegias were the features of a meritorious group staged by Mr. A. Ll. Gwillim, Sidcup, Kent.

A blaze of colour in Roses, Pelargoniums, Calceolarias and Cannas was created by the display from Messrs Cannell, Swanley, Kent.

Messrs. Thompson and Charman, 11, Adam Street, Adelphi, W.C., showed Lupines, Achillea rupestris, Campanula punctata, and Viola gracilis among a host of hardy flowers.

The greenhouse annual Statice Suworowi and variety alba, together with new Azaleas, were shown by Messrs. R. C. Notcutt of Woodbridge.

Mr. G. Reuthe, Keston, showed a collection of interesting hardy plants, among which we observed Irises in variety and Primula sikkimensis in quantity.

FLORAL COMMITTEE'S AWARDS.

Silver-gilt Flora Medals.—To Messrs. Dobbie for Sweet Peas and Antirrhinums; and Messrs. Veitch for Fuchsias, Gloxinias, &c.

Silver-gilt Banksian Medal.—To Messrs. Cannell, Swanley, for Cannas and Pelargoniums.

Silver Flora Medals.—To Messrs. Bunyard for herbaceous plants; Mr. Burnett for Carnations; Messrs. B. R. Cant for pot Roses; Messrs. Kelway for hardy plants; A. G. Waley, Esq., Reigate, for Schizanthus; and Mr. Webster Chichester, for Carnations.

Silver Banksian Medals.—To Messrs. Bath for Tulips and Sweet Peas; Mr. Box for herbaceous plants; Messrs. Burch, Peterborough, for Roses; Messrs. Clark, Dover, for herbaceous plants; Messrs. Cutbush for Roses; Messrs. Gunn for Phloxes; Messrs. Jackman for herbaceous plants; Messrs. Low for Carnations; Messrs. May for choice Ferns; Mr. Perry for Poppies and Irises; Mr. Reuthe for hardy plants; Mr. Russell for shrubs; Messrs. Wallace for hardy plants; and Mr. Blick for Carnations.

Bronze Flora Medals.—To Messrs. Barr for Irises and Lupines; Messrs. Godfrey for Poppies, &c.; Mr. Gwillim for Gloxinias; Messrs. Piper for Wistarias, &c.; Mr. M. Prichard for hardy plants; Messrs. Ware for alpines; and M. Drummond, Esq., Southampton, for Aquilegias.

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EDITORIAL NOTICES.

Every description of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The Long-Spurred Columbines.—Few hardy flowers are capable of affording so much pleasure as a well-grown colony of these beautiful plants. Their long spurs, graceful poise and exquisite art colour shades appeal to all, and if cut in a young state they will last several days in water. Although it is generally assumed that these hybrid Columbines are short-lived, this is not always so. When visiting Messrs. Dobbie's trial grounds at Mark's Tey in Essex last week, we were interested to see a large bed of plants that had been undisturbed for at least ten years.

Berberis stenophylla as a Hedge Plant.—This is one of the most ornamental of our hardy flowering shrubs, and as it is evergreen it is a valuable plant, even when it is not in bloom. It is of garden origin, the parents being Berberis empetrifolia × B. Darwinii, both of which are natives of Chili. Apart from its value as a shrub, it is an excellent subject for forming a hedge, either as a boundary or as a screen. It should be cut back to its shape as soon as the flowers are over, and it will then send out good, strong growths, which will give a wealth of blossom the following spring.

A New Pedicularis.—The marsh-loving Lousewort (Pedicularis palustris), which is now flowering profusely in many damp places of this country, may find a rival in the new species, P. siphonantha. This species has been collected by Mr. F. Kingdon Ward in South-Eastern Thibet, where it grows in damp, grassy meadows at an elevation of 11,000 feet. It has curiously-shaped flowers, red in colour and borne close to the ground. It was one of the new alpines shown in the Farrer Cup collection by Messrs. Bees, Limited, at the Chelsea Show.

A Golden-leaved Oak.—In Quercus rubra aurea, the North American Golden Oak, we possess a valuable tree for effective planting in the pleasure grounds and park. Some of the so-called yellow-leaved shrubs are little better than an unhealthy-looking green-leaved tree, but this cannot be said of the subject of this note. It is a rich golden yellow in spring, the colour being most effective with a background of evergreens. By the side of the Broad Walk at Kew a tree, about twenty feet high, is most effectively placed with a background of Corsican Pines (Pinus Laricio), and in the foreground a large bed of Rhododendron Lord Palmerston, or, as it is sometimes named, Cynthia, with rosy crimson flowers.

Roses and Green Fly.—We do not remember seeing Roses so badly infested with green fly or aphis as they are this year, and judging by reports received, the trouble is very widespread. Undoubtedly the best method of combating this pest before the flowers are actually open is to spray with any of the insecticides advertised in our pages. When the blooms are open, however, they are apt to become soiled by such treatment, though even then it is better to sacrifice a few than to let the pest get the upper hand. Where a good force of water is available, a severe hosing will dislodge large numbers of insects, and if repeated two or three evenings in succession, will do much towards cleansing the plants and cause no injury to the open flowers.

When to Sow Wallflowers.—Although there is considerable difference of opinion as to the best time to sow Wallflowers, we think that for Southern Counties there is no better period than early June. Earlier-sown plants get too large, while those raised much later do not have time to make specimens sufficiently sturdy to withstand the fogs and frosts of winter.

Cutting Back Aubrietias.—Now that the flowers of these plants are going over, it will be found advisable to cut off all the old flowering shoots, as it gives the plant a more compact habit and also encourages a quantity of new growths, which, when large enough, make excellent cuttings for propagating. They should be placed in sandy soil under a hand-light, and in this way a good stock can be obtained, which will be found of great value next spring, either for massing in the rockery or as a carpet for bulbs in the flower garden. Another good method is to work some fine soil among the old plants; this will encourage new roots, and the plants can be taken up in the autumn and divided into good, well-rooted pieces.

Gloxinias for a Cool Greenhouse.—There is a tendency on the part of many to regard Gloxinias as stove plants, the result being that they are grown much too warmly, and have, consequently, a weak and drawn appearance. Added to this, they are under such conditions more liable to be attacked by insect pests than when they are grown cooler and in a more robust fashion. However fine the flowers may be, they lose a good deal of their beauty when they are associated with loosely-disposed, thinly-textured leaves. So carefully is seed saved nowadays that it is quite the exception to increase Gloxinias in any other way, though not so very many years ago they were largely propagated by means of leaf-cuttings.

The Yunnan Rhododendron.—The wealth of Rhododendrons in the flora of China is yearly being brought more prominently before us as the plants raised from seeds collected by Mr. E. H. Wilson reach the flowering stage. R. yunnanense was first introduced to this country in 1894. This was prior to Mr. Wilson's first journey, though seeds of this species and the allied R. ambiguum, R. harrovianum, R. benthamianum, R. concinnum and R. siderophyllum were sent home by him from China. The Yunnan Rhododendron is one of the small-leaved evergreen section, freely branched, and covered at the latter half of May with Azalea-like blossoms. These are white, with just a tinge of mauve and the usual spotting. The bushy plants grow to 3 feet or more in height, forming useful subjects for beds or groups in a shrubbery border.

CORRESPONDENCE.

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

How to Grow Ourisia coccinea.—In reference to the note by Mr. Arnott on page 275 of May 31 issue, I have some two year old plants which have thriven and spread, and have given a great number of blooms this year. They are planted immediately over the ledge of what forms one of the cemented divisions of my bog garden, over which the water flows from the upper to the lower part. The soil consists of peat, loam and leaf-mould, and is, of course, continuously moist.—FRANK R. ELGOOD, *Northwood, Middlesex.*

Grouping for Colour.—However carefully we may intend to make our garden colour-pictures, sometimes the plants stray away and do it still better by themselves. Such an example has just occurred in the case of a piece of dry walling facing nearly north. For a yard or two the spaces are nearly filled with Saxifraga Cymbalaria. In some of the lower joints Corydalis ochroleuca has established itself, and Meconopsis cambrica is in the lower joints and at the foot. It is true that all these plants are in the same garden region, but nowhere are they so well arranged or so prettily brought together as in this particular place, where they have come of their own will. As a harmony of full and tender yellow with fresh green foliage it could hardly be better.—G. JEKYLL.

A Plea for Perfume.—On page 275, issue May 31, "Anne Amateur" has a very interesting note on perfume in flowers. I once expressed my regret that a certain flower lacked perfume. "If it was sweet-scented," I said, "it would be perfect"; this to a brother-gardener. I was much astonished to find that he did not agree with me. He said, "If all flowers were sweet-scented, many persons would have to discard numbers of them, because everyone cannot endure the sweet scent—often very sickly—of the blossoms." In a sick room, for instance, sweet-scented flowers cannot be endured, although the lovely colours and forms can. I myself speak from a four months' experience of deliciously-scented flowers in my own room. They had to be taken out from time to time. I do agree with "Anne Amateur," however, that those kinds of flowers, naturally sweet-scented, ought always to retain that characteristic. Fancy Mignonette without any perfume!—B.

Saxifraga longifolia magnifica.—Under this name Mr. J. Grandfield, gardener to Sir Everard Hambro, K.C.V.O., Hayes Place, Hayes, Kent, exhibited on June 3 one of the noblest examples of the Pyrenean Rockfoil seen in cultivation. The specimen had been pot-grown, and not in the whole of my experience have I seen anything so handsome or so good. The great pyramidal inflorescence was shapely and well framed, and, I was pleased to note, had been permitted its natural bent. The flowers, too, were almost twice the size of those usually seen, pure and shapely withal. Obviously the plant was a veteran, as witness its giant rosette of leaves; and though a few weeks hence the Hayes collection will know it no more, seeds will be presently forthcoming, from which useful stock can be raised. The measurements of this fine plant, for which a cultural commendation was given, were as follows: Length of inflorescence from the top of the rosette, 2 feet, its basal diameter being 16 inches at the same point. The rosette of leaves had a diameter of 14 inches, the plant being grown in an 8-inch pan. It is believed to be about fifteen years old.—E. H. JENKINS.

A SUPERB PLANT OF SAXIFRAGA LONGIFOLIA MAGNIFICA THAT WAS EXHIBITED AT THE ROYAL HORTICULTURAL SOCIETY'S SHOW LAST WEEK.

Rose Lady Hillingdon.—May I disagree with your footnote on page 287, issue June 7? When this Rose was first distributed I was of your opinion, but I now think it is the best yellow Rose we have. I have a bed of it in my own garden, which is rank clay (my garden was a pottery two years ago), and the blooms last season were a most perfect colour, many of them being practically upright. My opinion is that failures are largely due to pruning. It is a Rose which should be cut back very hard; it then makes strong, sturdy wood. My plants were seen by hundreds of people last year, and they all agreed that it was one of the best Roses in the garden. The first season we had them in the open in the nursery, I told Mr. Mount, who distributed it, it was no use; but I had to alter my opinion and tell him last autumn that I consider it far and away the best yellow Rose.—WILLIAM H. CUTBUSH, *Highgate.*

—— In your issue of June 7, page 287, you say: "The drooping habit of this Rose is undoubtedly a great drawback, but this could be tolerated if the colour were good. We have never seen blooms of really good colour from outdoor bushes in a fully-exposed situation." Had you been in Duns last autumn and seen the Rose referred to blooming in the open and in a fully-exposed position, you could never have truthfully penned the above, as Lady Hillingdon could have been seen here with blooms of exquisite colour.—JAMES D. LAWRIE, *Duns.*

Roses with Beautiful Stems and Foliage.—I fully agree with the editorial note on this subject on page 273 of May 31 issue. There are many varieties of Roses which possess very beautiful leaves and stems. I would add at least one variety to the short list named, and that is Mme. Berard. When well established in a suitable position, this Rose flowers freely, and the buds and full-grown blooms are very lovely. With me, however, the plants never did flower well, but there was some compensation—the leaves, especially the young ones, were very rich, rivalling the autumn tints of foliage of various kinds. For table decoration the young tips of the shoots may be used to great advantage. When so employed, the young shoots must be cut off about twelve hours previously and wholly immersed in water in a very cool room; also wrap them in damp paper while taking them to the show. They will remain fresh for six hours.—SHAMROCK.

Aubrietias: What is a Novelty?—Among the novelties we are to expect next year, I note a new Aubrietia, but I cannot think the description of its colour is a recommendation. I have long maintained that the dirty colours of many of these most valuable rock plants render it almost necessary to have a separate rock garden for each variety, and the announcement that the new-comer is described as a "curious smoky purple" is most discouraging. Why not try the effect of a weak solution of weed-killer? Sometimes Nature allows man great liberties with her colour-box, but he has abused the privilege in the Aubrietias and in some other flowers. I look in vain for good clear colours or really pleasing shades. Lavender is a beauty; the trio, too much alike, Mrs. Lloyd Edwards, Dr. Mules and Prichard's A1 are lovely—but one has to be careful in placing these uncertain colours; while Fire King, Leichtlinii and a number of similar shades are impossible neighbours to almost anything. I also have some seedlings of a "smoky purple," but to my mind they are "rogues." Of course, tastes differ, but there seems to be an idea that any colour variety is necessarily a "novelty," whereas a novelty should be an advance in most, if not all, ways. It has no claim simply because it is a new shade, and a dingy shade too. Should such very doubtful "novelties" be encouraged, and should they receive awards from those in a position to grant them?—ERNEST BALLARD, *Colwall.*

How to Grow Viola pedata.—In reading Mr. Arnott's little article on Viola pedata in a recent issue of THE GARDEN, I was particularly interested regarding the accepted opinion that its successful culture is exceptionally rare. I think it might perhaps interest you to know we have Viola pedata growing here in a perfectly healthy and vigorous condition, and is at present showing bloom. Its position is facing north, between two buildings, being a sort of passage where nothing in the way of shrubs would thrive. It occurred to us to turn the place into a rockery—which we did—planting, among other things, roots of this charming Viola. I simply put them in a bed of leaf-soil, loam and sand, and they have been, and still are, a splendid success, not having lost one plant. It seems rather extraordinary to find them growing so freely and easily, for, as Mr. Arnott says, it is "a notoriously difficult alpine to cultivate."—J. STEPHENSON, *Sutton Hall, Chesterfield.*

Does It Pay to Spray Potatoes?—In reference to the note on page 225, issue May 10, I unhesitatingly say, "Yes, it does, and the man who does not spray is a loser in crop, soundness of tuber and quality." In this neighbourhood Potatoes are largely grown, and those who spray twice and sometimes thrice gain as much as five tons per acre over those who do not spray at all. Apart from preserving the tubers in a sound condition, the haulm is kept in a growing state so much longer; hence the increase in crop. So few persons who do not spray seem to grasp the advantage of keeping the haulm growing for two months longer than otherwise would be the case when disease seizes it. Last year I started on one side of my six-acre plot, doing one-third of it. For some reason the remainder was done at intervals. The difference in the sprayed and the unsprayed portions was striking, especially from stage to stage in the growth of the haulm. Spraying should commence when the haulm is 6 inches high; in fact, directly earthing-up is complete, and should be repeated once in the case of early and mid-season sorts. In the case of late varieties, three sprayings should be done. It is not the curing of the disease that is attempted; it is the prevention that is the all-important point to study. When liquid spraying is done, plots of one or two acres can easily be done with a knapsack sprayer—Hartjen's "Holder" Pneumatic, for example—as with the ordinary lances and nozzles attached to this sprayer the work can be effectively done. The under surface of the leaves and stems especially are the all-important parts to thoroughly wet with Strawsonite. Dry spraying is likely to become more popular than liquid spraying where large areas have to be done, as the saving in labour—water-cart and mixing—is considerable. There is one drawback, though, in this. Dry spraying can only be done during a limited period, when the haulm is damp from dew or light rain. In the case of the former, very early attention is necessary, a start having to be made as early as 3 a.m.—E. M., *Hants.*

FORTHCOMING EVENTS.

June 17.—Royal Horticultural Society's Meeting and Gladiolus Show. Lecture at 3 p.m. by Professor G. Henslow on "The Evolution of Plants and the Directivity of Life as Shown by Vegetative Structures." Oxfordshire Royal Horticultural Society's Show.

June 18.—Yorkshire Gala (three days). Royal Jersey Horticultural Show (two days).

RESULT OF OUR ROCK GARDEN COMPETITION.

No fewer than seventy sets of photographs of rock gardens were sent in for this competition, and, after careful consideration, the judges have awarded the first prize of five guineas, or a silver cup of that value, to:

Mr. W. A. Cook,
The Gardens, Leonardslee,
Horsham, Sussex.

Second prize of two guineas, or books of that value, to:

Mr. T. Matthews,
Brockhurst Gardens,
East Grinstead, Sussex.

Third prize of one guinea to:

Mr. A. Weiss.
Drynham, Oatlands Chase,
Weybridge.

The rock gardens of Mrs. Green, The Curragh, County Kildare, Ireland; Mr. W. E. Hawkins, Longfords House Gardens, Minchinhampton, Gloucestershire; and Mrs. H. Scott, Cadeby, Market Bosworth, are highly commended.

The photographs of the winning gardens, together with descriptions of the same, will appear as early as can be arranged. A number of the rock gardens depicted in the photographs sent in showed serious faults. In many instances they were arranged in close proximity to the dwelling-house, while in others dense trees were overhanging. In a few, rustic pergolas had been introduced, and in one, at least, weeping standard Brooms were planted. All these features should be avoided where possible. The placing of the rock, however, seems to be the greatest stumbling-block, many of the examples being unnatural and quite unsuitable for plant-life. We hope in the autumn to publish a series of articles on rock garden construction, with diagrams showing how the rock should be placed. Owing to a clerical error, we regret that many of the non-successful photographs were returned without the intended letter of thanks, and we therefore take this opportunity of thanking all those who entered the competition.

THE ROSE GARDEN.

PLANTING OUT ROSES UNDER GLASS.

EACH year the demand for early Roses increases, as evidenced by the huge structures that are erected by some of our leading commercial florists. Now, it is good for the grower that this is so, and doubtless he supplies thousands of people with blooms who have not the convenience whereby they could grow their own. But yet there are numbers of establishments in the country where it would be possible to devote a house or houses to the culture of indoor Roses; and this article is penned just as a reminder to some readers that now is a good time to make a start. First of all, place your order for young pot-grown plants growing in 5-inch pots. These should be of the current year's grafting, usually worked in January.

Preparing the Borders.—The next step would be to prepare the borders inside. A nice light span-roofed house running north to south would be best, and should be well equipped with ventilating gear on both the east and west sides of the roof. Side ventilation will also be advisable. I would prefer a house having a movable roof, or, better still, one of the movable structures. Of course, this cannot be arranged under such short notice, but it might be possible for another year. Good Rose soil is essential; that is, a nice strong loam, with plenty of good, well-rotted farmyard manure worked into the subsoil. Let the soil be trenched at least two feet deep, and some basic slag placed in the lower spit at the rate of 6oz. to the square yard.

Distance Apart to Plant.—Having prepared the borders, about a fortnight should be given them to settle down, and then the plants which have arrived in the meantime may be set out 3 feet apart each way. This seems a lot of space for a small plant to occupy, but in a year or so it will be none too much. I have seen plants of Niphetos, Bridesmaid and similar varieties of about ten years old that have been 5 feet high and 3 feet to 4 feet through.

It does not matter if the house is a lofty one, as many growers prefer that there should be plenty of air. Cultural details, such as well spraying in the mornings and afternoons of fine days, together with careful root watering, must be given attention, and a look-out kept for aphis and mildew. Auto Shreds are one of the easiest exterminators of green fly, and there are plenty of remedies for mildew.

Training the Plants.—Some of the plants may need tying out to sticks, for it is important that each leaf obtains all the sunlight it can get. By the autumn the growth made will be amazing. In the early stages of growth—indeed, until autumn—the buds should be pinched off. If the soil is lightly covered with some old hot-bed manure, this will prevent too rapid evaporation; consequently, less water will be needed at the roots, but, before applying it, it will be well just to lightly loosen the surface. Free ventilation may be given on the top ventilators, but keep the sides closed. A moist, humid atmosphere is best for quick growth. Some good varieties to begin with are Sunburst, Mrs. George Shawyer, Richmond, Lady Hillingdon, Liberty, Mme. Abel Chatenay, Souvenir de Gustave Prat, Molly Sharman Crawford, Mrs. Aaron Ward, Lady Pirrie, Rose Queen and My Maryland. In order to grow the long-stemmed, big-flowered sorts, such as Frau Karl Druschki, Mrs. John Laing, Ulrich Brunner, Captain Hayward and Caroline Testout, I would suggest a separate structure, and in their case it would be best to put in open-ground plants in the autumn and build a structure over them after they have been established a year.

A BEAUTIFUL NEW ROSE.

ONE of the most charming novelties from Newtownards is Carine. I do not know any Rose that has pleased me more, and to attempt a description of its lovely tints is all that I can do. There are present orange carmine, blush buff, creamy fawn and coppery salmon, all colours that attract the eye; but when the coppery salmon hue prevails, as it frequently does, it is most delightful. The form of bud is nearly as long as that of Mrs. Alfred Tate; it is altogether a fuller Rose than this, and will make a most charming coat-flower. The growth is vigorous, erect and branching, and the flowers are produced in great profusion. I congratulate Messrs. Alex. Dickson and Sons upon raising this really delightful Rose, and predict a great future for it. DANECROFT.

TREES AND SHRUBS.

SOME GOOD WOODLAND EFFECTS.

MANY very beautiful and pleasing effects are possible in the woodland, wild garden and pleasure grounds with annuals and biennials. In such places we must, first and foremost, try to copy or imitate Nature as far as possible by sowing or planting in a natural manner. Formal planting will set up a jarring note instead of appealing to the taste of those who love the artistic and natural.

While seeds of Forget-me-nots, Foxgloves, Honesty and the Giant Balsam (Impatiens Roylei) may be scattered freely in any bare place where the plants are likely to thrive, the positions for the boldest groups should be chosen with care. Suitable surroundings are essential, and another very important point is the effect at a distance. The accompanying illustration, for instance, depicts the beautiful blue Forget-me-not, Myosotis alpestris, growing on the side of a slope where it can be seen a long way off. Looking out from the upper windows of a dwelling-house and seeing an effect such as this, perhaps some distance off, across the lawn on the edge of the woodland, when the blinds are drawn up on a May morning, must command admiration.

In a somewhat similar manner masses of such things appeal to most visitors to public parks and gardens. Though such effects as that depicted in the illustration are only possible in gardens of considerable size, both Foxgloves, Honesty and Forget-me-nots can be effectively used in the shrubbery borders and other corners of the small suburban garden where other plants which require good cultivation will not thrive satisfactorily. Tufts of Forget-me-not or Honesty may be grown in bare places between shrubs, or associated with hardy Ferns, which later, when the fronds develop fully, will clothe the ground. June may see similar places in the small garden gay with the purple and white flowers of the Foxglove or the scarlet and black Poppy, Papaver commutatum (P. umbrosum), which flowers in June from self-sown seeds.

Though very careful cultivation and attention are not necessary to obtain good results, a certain amount of attention is desirable. Foxgloves, Honesty, Forget-me-nots, Poppies, Impatiens Roylei and Mimulus luteus all shed their seeds and come up freely in the autumn or following spring; but weeds also grow just as freely, and must be kept down and prevented from seeding. The ground, however, neither of necessity nor to destroy the natural character of the planting, needs to be kept as rigidly clean and free from weeds as the flower-beds and herbaceous borders. The young plants, in many instances, may come up irregularly, necessitating thinning, though this should not be done too rigidly and evenly, or the plants, when in flower, may resemble a well-kept bed, instead of apparently a stretch of natural wild flowers. For these large patches it is as well to dig over the ground and, if poor, manure it in the first instance previous to sowing. It is also worth while every third or fourth year lifting the seedlings in autumn, digging the ground and replanting.

In addition to what may be termed the large permanent patches, a few supplementary patches crop up from time to time. For instance, when clearing out old shrubs or cutting down trees in the woods, the bare ground may be sown with seeds of Foxglove or Myosotis instead of grass, and then, after a year or two, if not thought desirable to be continued, allowed to lapse and become part of the woodland grass.

To obtain material to extend this style of gardening, seeds may be sown where they are to flower, or there is usually plenty of young plants in the existing groups which may be transplanted from autumn to spring. In forming these masses or stretches of flowers, avoid any formal lines and curves. Let them naturally coincide with, or fit in with, the surrounding trees and shrubs and the lie of the ground, taking every advantage of sloping or hollow ground. A. O.

A BEAUTIFUL WOODLAND SCENE: FORGET-ME-NOTS WITH A BACKGROUND OF DARK CONIFERS.

RARE SHRUBS AND TREES AT ALDENHAM HOUSE.

In a recent walk round the gardens at Aldenham House with the Hon. Vicary Gibbs and his accomplished head-gardener, I saw several interesting shrubs in full beauty. I was particularly struck with the magnificent Cherry (Prunus Pseudocerasus) Shirofugen, which was perfectly charming with its long, horizontal branches laden with huge double, blush-coloured flowers. This variety blooms more freely, if anything, than James H. Veitch, and the flowers are larger; the colour is several tones lighter.

Another magnificent object was that glorious Sycamore, Acer Pseudoplatanus Prinz Handjery, a young standard tree of which was exquisite in its early garb of bronzy salmon, that shone with a burnished lustre in the spring sun. Prunus Rhexii flore pleno, laden with its double white rosettes, was very beautiful. Rubus deliciosus, here grown as an open bush and pruned hard after flowering, has large pure white flowers, like great single Roses, and, though common, is one of the most chastely beautiful plants in the whole collection. A splendid plant of Pittosporum tenuifolium, much at home on the dense clay, is an object-lesson to those who doubt the hardiness of the genus. I have not heard of this species in the famous collection at Castlewellan. The small flowers are almost black.

Of the numerous Japanese Quinces, Pyrus japonica Simonii and Maulei perfecta were two of the best; the former has magnificent colour — a rich blood crimson. The Purple Nut (Corylus maxima atropurpurea), with its dense mass of burnished purple foliage, is a splendid foil for Acer Negundo variegatum and other light-leaved subjects. The Nut is cut hard down every three years.

The names of interesting things beautiful in flower or foliage would make a long list. Cotoneaster Dammeri, a grand rock creeper; C. multiflora and many others; Ribes laurifolium, R. speciosum, R. leptantha (evergreen) and others; Stranvæsia undulata, a host of Barberries, the lovely Exochorda Giraldii, Spiræa lævigata, resembling the Spurge Laurel; the silvery Pyrus salicifolia pendula, the golden P. Aria chrysophylla, the large-leaved Prunus Avium decumana, the graceful Prunus Padus Albertii, with long, white lilac-like spikes; the dwarf pumila and the

variable P. Pissardii Hessei; that fine Beech, Fagus sylvatica Sweet Magnet; the Chestnuts, Æsculus plantièrensis, indica and turbinata; Lonicera Heckrattii, not yet in bloom; the winged Euonymus, E. alatus, which is rose-tinted in autumn; Drimys Winteri, with its large oval leaf and brown stem; Nothofagus obliqua (the Chilian Pine), Fraxinus Mariesii, which Mr. Vicary Gibbs considers to be the best of the Ornus type; Robinias crispa and tortuosa, varieties of Pseudacacia—all these were well represented. Add to them such uncommon things as Stephanandra Tanaliæ, Coriaria japonica, Ligustrums Weidam, tricolor and coriaceum, Viburnum Carlesii, Castanopis chrysophylla, Shepherdia argentea, Broussonetia papyrifera cucullata, Syringa Emodii, Veronica canterburyana, Corylus avellana aurea, Acer campestre Schwerini' Ilex cornuta and I. dipyrena, Bupleurum fruticosum, Baccharis patagonica and Cratægo-mespilus Dardari (a graft hybrid), and an idea is gained of the interest, variety and beauty of the collection.

One cannot fail to be struck by the splendid culture and skilful grouping, nor by the complete mastery which the Hon. Vicary Gibbs displays of his many acres of beautiful and rare shrubs and trees. W. P. W

A BEAUTIFUL AUSTRALIAN SHRUB.

(Elæocarpus reticulatus.)

It is well over a hundred years ago since Elæocarpus reticulatus was introduced from Australia. It was then known as E. cyaneus, by which name it is still often referred to. At the time when hard-wooded plants of Australia were at their height of popularity in this country, E. reticulatus was one of the most widely cultivated. To-day it is rarely seen, although by virtue of its delicately-fringed white flowers it is worthy of far wider cultivation as a greenhouse shrub. If given sufficient room, it is a plant that will attain a height of from 12 feet to 15 feet, but it is a simple matter to have plants in full flower although only as many inches in height. For instance, the illustration, which so well depicts the character of the fringed, bell-like flowers, represents an entire plant that has been knocked out of a 3-inch pot for the purpose of photographing. The value of these little plants—easily procured from cuttings—can hardly be over-estimated. For table decoration and for conservatory work, especially where small plants are required as edgings to groups, such plants are invaluable. The cuttings, it should be explained, are made from the ripened shoots with leaves intact, and placed in sandy soil with bottom-heat. Propagation may also be effected from seed if sown in a hot-bed. June and July are the usual flowering months, and the beautifully-fringed flowers are followed by globose blue fruits, or drupes as they are botanically termed.

ELÆOCARPUS RETICULATUS, AN AUSTRALIAN SHRUB WITH BEAUTIFULLY FRINGED WHITE FLOWERS.

THE FLOWER GARDEN.

SEASONABLE NOTES ON CARNATIONS.

The month of July brings a plethora of beauty in the garden, for it is then that the Roses, the Carnations and the Sweet Peas reach the summit of their beauty, and it is a time that must be prepared for in advance. To secure the utmost delight from the occupants of the garden, they must be so well managed that they grow to perfection, and no plants will do this when they are neglected or if it is thought that necessary attention can be given at any time or any moment. The successful gardener looks far ahead, and this month he will be laying the final foundation for the glories of July among the flowers.

Insect Enemies.—The enthusiast in Carnation culture rests happy in the knowledge that his favourites of the bed and border are not particularly prone to the attacks of many insect pests, but those which give the plants attention will quickly do harm unless they are suppressed. A persistent look-out ought to be maintained now for the visitations of green fly and thrips. The first named increases more rapidly than the second named; but it is, all things considered, easier to deal with and more readily discoverable. Its presence is generally easily discernible, whereas the thrips hide themselves cleverly, and in the absence of diligent search may do irreparable injury. For the green fly there are many excellent washes advertised in The Garden, or soft soap and Quassia wash may be prepared at home. One dressing may not suffice, but two or three will put things straight. For thrips Abol is reliable, prepared according to the makers' clear instructions, but the enemy should also be sought for and immediately killed.

Hoeing and Mulching.—When either of these operations is decided upon, the grower has one chief idea in his mind—he desires to keep the soil cool and moist. By hoeing alone the moisture may be conserved in the soil to a pronounced extent; but when the hoeing is supplemented by mulching, the end in view is attained, and, at the same time, food that will undoubtedly be appreciated is provided for the plants. For these reasons hoeing ought to be done, and afterwards a covering of manure should be spread over the whole surface. If the appearance of it is strenuously objected to, spread above it a thin coating of the finest mould, but for preference leave it exposed to the air.

Disbudding.—Carnations grown purely and simply for the adornment of the garden and for cutting are not always disbudded, but this can only be regarded as an error of judgment. When a plant is producing so many blossom-buds that it is impossible for any of them to develop in perfection, reduction must be the rule, because a flower that is not perfect cannot adequately fulfil its mission. It is affirmed by some people that disbudding is contrary to Nature, and they will not have recourse to it; but this is a poor argument, since if it were followed out to its logical conclusion we should see no improvements upon Nature's admirable handiwork. By all means reduce the number of buds on a stem according to judgment or fancy, and do not permit all to remain when the plant obviously lacks the power to finish them. For individual exhibition blooms the reduction is carried to the crown bud, but for home service two or three buds can always be desirably retained, and the results will be more pleasing.

Flower-Stems.—We must also give careful consideration to the flower-stems, which are not usually strong enough to carry their flowers in a favourable position. Here there is not the slightest doubt that Nature must be followed, and the method of placing a stick in each pot and drawing all stems in a mass round it is strongly to be condemned, because by so doing the attractive habit of the plant is entirely destroyed. One stick, one plant, is by no means a bad rule, but there must be no bunching; on the contrary, each stem should be in a separate strand of tying material in such a manner that its grace may be appreciated and its flowers seen. Slender green sticks of sufficient length to go deeply into the soil and so

secure a firm grip are excellent, while there are special supports on the market for these plants. From the one stick green bast or very soft green string will provide efficient support.

NOTES FROM WISLEY.

One can never visit the Royal Horticultural Society's Gardens without learning some useful lessons. Just now in the wilder part there are two or three regions of special beauty, where masses of perennial Lupines and Columbines are happily grouped with a shrubby background. Both kinds of plants are in many tints of purple, pink, and white, the colours blending delightfully not only with each other, but with those of the Lilacs and Rhododendrons at the back. Both the Lupines and Columbines seed so freely that a large stock can easily be raised, and nothing can be better for the decoration of any rough or otherwise waste place, such as so often occurs on the outskirts of a garden.

A CARPET OF MOSSY SAXIFRAGES IN THE ROCK GARDEN.

Primula japonica, in great profusion by the water-side and in cool, damp places under the shade of Oaks, has broken into a number of tints, from the type magenta crimson to a nearly pure white. The type colour is to me, and to many, an unpleasant one, and it is a pleasure to see that in some of the later crimson seedlings the colour is tending to a much better kind of red, such as gives a hope of ultimate arrival at a good scarlet crimson or blood red.

Rambler Roses.—An excellent way of growing the strong rambling Roses is practised at the Royal Horticultural Society's Gardens. Three stout Larch poles, about eleven feet out of the ground, are placed triangularly about two feet six inches apart at the butt, and are brought together at the top. Outside the foot of each pole a Rose is planted. The three of the same kind meeting above form a large and handsome Rose pillar.

Tree Lupines are grown as standards with large, shapely heads, a mass of bloom, on a trunk about four feet high. With careful pruning these standards are no doubt kept in good order for several years, the pruning much prolonging the life of this usually short-lived plant. G. J.

THE SNAPDRAGON AND ITS CULTIVATION.

The Antirrhinum, popularly known as the Snapdragon, is one of the few flowers which will thrive under almost any conditions, and often under the most adverse. It will blossom in profusion on the arid heights of the battlements of some old castle or ruin, and will equally luxuriate in the herbaceous border of a well-kept garden. That such an accommodating and beautiful flower should have evaded the notice of seedsmen for so long is surprising; but during the past few years several of our leading growers, having seen its potentialities, have given it careful attention, with the result that there are now on the market some of the most magnificent varieties. This flower is deservedly becoming popular, and for many years to come will be in the forefront of the hardy border flowers. Thanks, too, to the perfection with which the several growers have carried out the selecting of seed, it is almost needless to grow named varieties, except for special purposes, as the seedlings raised year by year are equally as good, and of necessity grow more vigorously than plants from cuttings.

Culture.—Antirrhinum seed should be sown in cold frames or outside in summer, pricked off, and then transplanted into permanent quarters to flower the following season from May onwards; or a plan the writer prefers is to sow seed in pans in a steady heat in February, transplant into frames in April, gradually harden, and plant out into good, rich soil in clumps 1 foot between plant and plant about the end of May. The plants are in blossom by August, often earlier, and flower away right into late autumn. Moreover, the Antirrhinum is not tender, and if left unpruned it will withstand the winter and break into new growth in early spring, carrying large masses of flowers in May the following year. In the hands of the raiser it has proved its adaptability to various heights, and we have the same colours and forms in the dwarf (Tom Thumb), the intermediate (nanum) and the tall (majus) varieties. Thus the Antirrhinum lends itself to all manner of arrangement in the hands of an artistic grower, and some wonderful colour effects can be obtained by judicious selection.

As a Greenhouse Plant.—For indoor work, the greenhouse and conservatory the Antirrhinum is equally useful. Given cool treatment throughout and careful attention, magnificent spikes can be obtained. It is absolutely essential that the grower keeps the conservatory free of bees, which would prove fatal to his flowers. A house of Antirrhinums thus protected will retain the lower flowers until the whole spike is expanded. A few days ago it was the writer's good fortune to be in the neighbourhood of Mark's Tey, and a visit was paid to the seed farm of Messrs. Dobbie and Co. Naturally, after the display of Sweet Peas shown at Chelsea at the recent show, one was interested in Sweet Peas, but it is no exaggeration to say that the Sweet Peas were totally eclipsed by the house of Antirrhinums, some of which blossoms were to be shown at the Royal Horticultural Society's Show on Tuesday, June 3. Every form was there. On one side was a batch of Tom Thumb Dobbie's Brilliant, each in a 4½-inch pot, carrying six spikes of superb flowers. Next to it stood a batch of Dobbie's White Beauty, without the slightest trace of yellow in it. A batch of coccinea was a dazzling mass of brightness, and the striped varieties gave every variation that the most fastidious could wish, while Yellow Queen was unsurpassed. Of the majus variety, I measured plants bearing three spikes with twenty-eight expanded flowers and some twenty more unopened to each spike, and the plants were almost five feet in height. The length of the flowering spikes varied from 18 inches to 24 inches. Cottage Maid, Moonlight, coccinea, Crimson King and White Queen were varieties specially strong and vigorous in growth, carrying immense spikes of finely-developed flowers. The bees had been rigidly excluded from the house, and, although the lower flowers were paler than the newly-opened blossoms, yet the spikes were entire, and the whole display of hundreds of pots of well-grown plants was a grand triumph of the gardener's skill. Truly the Snapdragon is a most accommodating garden flower, but it is not generally known to what good effect the Tom Thumb varieties may grown in the rock garden. The Antirrhinum has come to stay, and will reign as one of the monarchs of free-flowering hardy plants for many years to come. S. W.

ROCK AND WATER GARDEN.

MOSSY SAXIFRAGAS FOR MASSING.

TOWARDS the end of May and in early June one of the most effective features in a well-furnished rock garden are the masses of various kinds of Mossy Saxifragas covered with sheets of white and rose coloured flowers. During the rest of the year they form carpets and mounds of emerald green foliage that are very attractive, one of the loveliest features in the rock garden during the past winter being a sloping bank of the Dovedale Moss (S. hypnoides), forming a close and compact carpet. For a cool and partly-shaded bank there is no more useful plant than the Mossy Saxifraga, for it is one of the easiest plants to grow. They all like a light rich soil and a position where they will not get dry and be burnt up in the summer. An ideal place is on a northern slope that is not too steep, where the plants themselves get the benefit of the sun but the ground is shaded and cool. The Mossy kinds may be propagated by dividing the plants after they have done flowering, taking care to keep some roots with each piece. They should then be planted in some shady border where they can be well watered for a time, till the plants begin to form new roots. In the autumn they will be ready for planting in their permanent quarters for flowering in spring. To obtain large, unbroken masses, the plants should be allowed to grow together, and then remain undisturbed. Young plants may also be produced from seeds; but as the Saxifragas so freely hybridise, they cannot be relied upon to come true. Cuttings during the summer months is another method of increase. These should be selected from the young growths that are made after the plant has finished flowering, and should be inserted in sandy soil in a close frame. The species of Saxifragas are very numerous, and many of them are very similar in appearance. Those mentioned here are some of the most distinct and useful for general purposes.

S. cæspitosa is one of the commonest Mossy kinds found in our gardens, where it is grown under many names. It is found on some of our highest mountains, and forms tufts of bright green foliage. It is a very free grower, and produces its large white flowers on branching stems some 8 inches or so high.

S. canaliculata, a native of Spain, belongs to the dactyloides group, which have very distinct divided foliage. It quickly grows into large tufts, and produces its white flowers freely.

S. decipiens.—This is very closely allied to S. cæspitosa, and many of its forms cannot be distinguished from that plant. Of it there are numerous varieties, while, by hybridising, many beautiful forms have been obtained. The red colour in this section was first obtained by crossing this and other kinds with S. muscoides variety atropurpurea. Then by selection and continuous seeding, such beautiful plants as S. d. variety grandiflora, S. bathoniensis and S. sanguinea superba, all with red flowers, have been obtained. One of the first, and still unsurpassed for neatness of habit and brilliant colouring, is Guildford Seedling. It forms a very compact carpet, and the bright red flowers are on stalks only a few inches high.

S. exarata.—On page 302 a group of this may be seen on the right, with flowers so thickly produced that they form a solid mass. The stems are very thickly produced, and branch so freely that there are several layers of flowers, one on the top of the other. Individually, they are small and white, commencing to flower early in May, and continuing well through the month of June. A square yard of this plant in flower is a remarkable sight, and, like all the others during the rest of the year, forms a cool green carpet of foliage.

S. hypnoides.—Of all the Mossy kinds, perhaps the Dovedale Moss is the most popular. It may be used in many ways and for many purposes. Planted in small tufts some few inches apart, it forms a fitting and charming groundwork for early spring-flowering bulbs when they are in flower. On a cool, shady bank it will form a close carpet, covered with a mass of snow white flowers in spring. For spring bedding or edgings for the front of the herbaceous border it is excellent. There are numerous varieties of the Dovedale Moss, of which the most compact are the varieties gemmifera and Kingii. S. h. variegata is a prettily-variegated form.

S. maweana is one of the largest-flowering kinds in this section, with distinct rosettes of foliage. In some places, however, this plant does not stand our winters well.

S. muscoides is a pretty dwarf carpeting plant with yellowish flowers. It forms a turf-like mass of tiny rosettes that make a very pleasing object in the winter. One of the prettiest forms, and the origin of all the colour varieties that we have in our gardens belonging to this section is S. m. atropurpurea, a very dwarf, moss-like plant, with rosy purple flowers on stems about an inch or two inches high. S. m. moschata is a larger variety, with yellowish white flowers.

S. pedemontana is one of the stronger-growing kinds, with rosettes of broader foliage. The three-lobed leaves are very distinct and bright green in colour, while the white flowers are borne in freely-branched corymbs.

S. sponhemica is closely allied to S. cæspitosa, with more finely-divided leaves in smaller rosettes. It is a quick grower, and seeds itself freely about the rock garden.

S. trifurcata.—Probably one of the most distinct kinds belonging to the Mossy section, with rosettes of three-parted leaves and white flowers in elegant panicles. The Stag's-horn Rockfoil (S. t. ceratophylla) has rather more divided leaves, much stiffer in texture, and forming a firm cushion of rather glaucous foliage. It is an old inhabitant of our gardens, having been in cultivation for over a century.

S. Wallacei.—This garden hybrid has been confused with the Spanish S. Camposii, but is more hairy and of freer habit than that plant. It is one of the most popular plants for spring bedding, with its freely-produced, large white flowers, which possess a Hawthorn-like scent. Very closely allied to this, but with rather smaller flowers, is S. glaucescens, which is shown in the illustration on the left. Both are excellent growers, easy to increase, and of compact habit.

During the past few years many hybrids and seedlings of varying merit have been brought out. Some, like Lady Deane, have very large flowers, but they lack the refinement and elegant habit of many of the wild types and selected varieties. W. I.

PRIMULA PSEUDO-SIKKIMENSIS, A BOLD PLANT WITH PALE YELLOW FLOWERS.

PRIMULA PSEUDO-SIKKIMENSIS.

PROBABLY no Primula is worthy of greater admiration than the graceful P. sikkimensis, or the

Himalayan Cowslip as it is sometimes aptly called. It is said to be the pride of all the Primulas of the mountains of India, inhabiting wet, boggy localities at an elevation of from 12,000 feet to 17,000 feet, and covering acres of ground with its yellow, drooping flowers.

There is in the rock garden at Kew at the present time a number of Primulas flowering so freely that they cannot fail to attract the attention of visitors. These plants bear the name of P. pseudo-sikkimensis, but in what manner this plant differs from the true sikkimensis it is not easy to define, except that it is a native of China, stronger in constitution and of more robust habit. The colour and form of the flowers are identical with those of P. sikkimensis. The new-comer may therefore be regarded as the Chinese representative of the Himalayan Cowslip. Probably the name pseudo-sikkimensis will never be in general use. The two forms are so much alike that they will doubtless both be called by the same name, sikkimensis, which, after all, seems the most satisfactory plan, for without doubt they are geographical forms of the same species. It goes without saying that the culture for both is alike. Both are hardy and love a deep, well-drained, but moist soil and a shady place. The leaves disappear in the winter, and during the time that the plants remain dormant they should not be molested or overlooked. Propagation is effected by division in spring or autumn, or by seed sown as soon as it is ripe.

CAMPANULA PUMILA AND ITS VARIETIES.

To the general cultivator of rock plants the differences between the plants covered by such names as C. pumila, C. pusilla, C. cæspitosa, C. cochliariæfolia and others seems to be of an infinitesimal character, and most of us are content to take the plants as simply forms of C. pumila or pusilla. With all deference to authorities, for all garden purposes the names may be taken as the same. There are, however, differences in size of flower, and also in shade of colour, among these little flowers. I am confident, for example, that there are two or three white forms, differing mainly in size of flower, better form of the bell, or greater substance in the bloom. At one time one was disposed to think that these were produced by the character of the soil, but actual experiment has made one think otherwise. My own old white one has been in my possession for many years, but it is inferior to one I got from Mr. Platt's garden at Hyning, and I came across another superior form in a local garden recently. In the case of the blues there are certainly differences in the size and form of the blooms, as well as in the colour. Opinions seem to vary as regards the shade of the one called Miss Willmott, yet it appeals to some of us. But the greater number of the blue varieties of C. pumila lack depth and not lightness of colouring, and what I would like would be a real dark purple blue, one of, say, the shade of C. Hostii. As an edging, as well as for masses on the rockery, C. pumila is such a lovely thing in all its colours that we can hardly have too much of it.

S. Arnott.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Papaver Perry's Unique.—A plant of moderate growth and distinct. The colour is brilliant crimson-scarlet, the black-blotched petals being lacerated to nearly one-half their depth. From Mr. Amos Perry, Enfield.

THE NEW PÆONIA ARBOREA L'ESPERANCE, A REMARKABLE YELLOW FLOWERING VARIETY WITH A CRIMSON BASE.

Stachys corsica.—A pretty green carpeter of the soil, preferably in cool and moist places. The half-inch-high flowers are pure white, the plants when in good condition being freely studded with them. From Messrs. R. W. Wallace and Co., Colchester.

Pæonia arborea L'Esperance.—A remarkable and beautiful addition to the Tree or Montan Pæonies, and a variety, when plentiful, destined for great popularity. The flower is semi-double and coloured a soft yellow, with a suspicion of buff, the bases of the petals crimson; there is a tuft of golden yellow anthers. We regard it as an acquisition. It gives us the impression of a semi-double La Lorraine, which gained a first-class certificate on May 14 last. From Messrs. Kelway and Sons, Langport. See illustration.

Primula × Excelsior (P. cockburniana × P. Unique).—The fact that this unique hybrid has already proved itself both a true perennial and quite hardy starts it on its career with a reputation of its own. At the present time the new-comer possesses all the vigour and free-flowering attributes of a glorified P. Unique, and, with handsome flowers of a brilliant crimson-scarlet, needs little further to commend it. A really first-class plant and an acquisition. From Messrs. James Veitch and Sons, Limited, Chelsea.

Salix magnifica.—A plant as much unlike a Salix as it were possible to be from the leaves alone was shown by the Hon. Vicary Gibbs, Elstree, under this name. The leaves are broadly ovate-acuminate, and are some 6 inches or 8 inches long and 3 inches to 4 inches broad. It is a new Chinese species.

Potentilla Boule de Feu.—Said to have been raised between P. argyrophylla and P. atrosanguinea. The flowers, which are coloured crimson-scarlet, are about an inch across. The foliage is silvery, after the manner of the first-named species. From Mr. H. Hemsley, Crawley.

Iris gracilipes.—The flowers of this pretty Japanese kind are of palest mauve, with an orange blotch, and in this and their fimbriated character may be likened to a miniature I. tectorum. The grassy, arching leaves are numerously produced, though the plant has not so far proved very floriferous. At the same time, there is a frail and delicate beauty about it which all lovers of the genus admire. From the Wargrave Plant Farm, Twyford.

Delphinium Mrs. F. Brewster. Only a solitary spike of this was shown, and that not of high excellence. The clear lilac mauve flowers are, however, distinct, and of large size. Exhibited by Mr. R. C. Notcutt, Woodbridge.

NEW ORCHIDS.

Awards of merit were granted to three new Odontoglossum hybrids, viz., O. Aireworthii Orchid Dene variety (crispum blotched form × lambeauianum), from Mr. E. H. Davidson, Twyford; O. Lairessei (Edwardii × Cervantesii), from Sir Trevor Lawrence; and O. Neptune (crispum × nebulosum), sent by M. H. Graire, Amiens.

The foregoing awards were made by the Royal Horticultural Society on June 3.

GARDENING FOR BEGINNERS.

THE PEAR MIDGE.

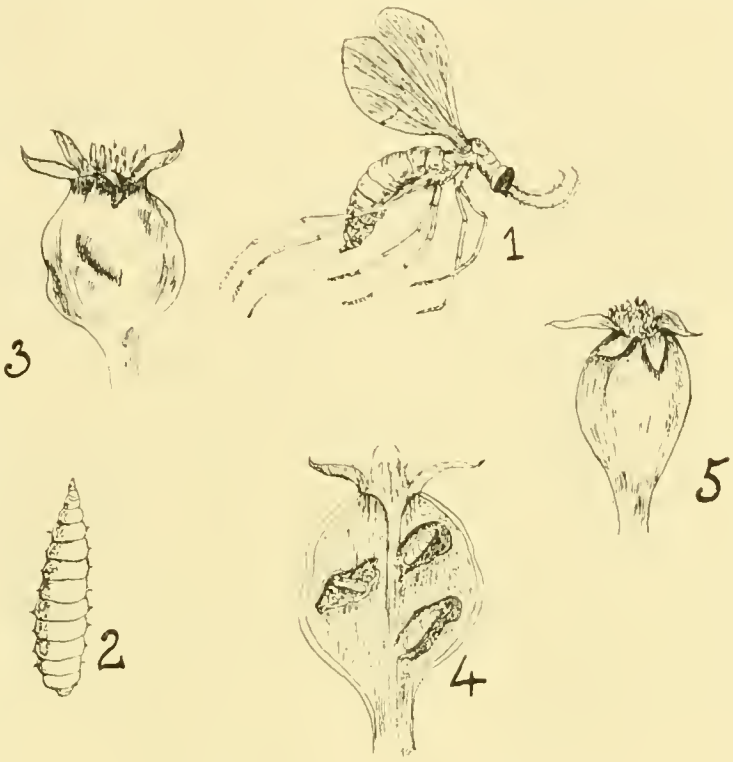
THIS is one of the most troublesome pests of the garden, and certainly one of the most difficult to stamp out when once it has established itself. The mischief is done at a time when it is impossible to spray the tree with any hope of destroying the insect without also injury to the fruit and trees.

It is necessary to understand something of the life-history of this pest before we can deal effectively with it.

The female insect (Fig. 1) is a minute creature with great power of flight, which appears just as the Pear trees are about to open their flower-buds; she pierces a hole through the petals and lays eggs to the number of ten or more. I have frequently counted twelve grubs in a fruit. These grubs (Fig. 2) feed on the small fruit, causing it to become deformed. It will be at once understood how useless it is to spray trees with a hope of killing these grubs without at the same time destroying the young and tender fruit also. Again, winter dressing and spraying do very little, if any, good, as the grubs bury themselves deeply in the ground for some weeks before they form a cocoon, in which state they pass the winter. It was a long time before I could understand what was wrong with the Pear trees in this garden. They flowered and set fruit abundantly; but each year, towards the middle to the end of June, most of the fruit invariably fell from the trees. I noticed, however, that these small fruits were malformed, as in Fig. 3, and on cutting some of these open I discovered a quantity of small yellow grubs, which had entirely eaten away the middle of each fruit, causing it to fall, and on examining the fruits still left on the trees I soon discovered those affected, owing to the malformation above mentioned. I then carefully examined each fruit, and any which showed the least deformity I at once gathered and buried. The beginning of June is the best time to do this. The trees affected should be examined each day and the fruits gathered; they should not be allowed to fall from the tree, as the grubs will leave the fruits as soon as they fall and bury themselves in the soil, where they will be quite safe from birds or other enemies.

I have seen spraying recommended as soon as the flowering period is past. I believe this to be useless. Several years I persevered with this, using many kinds of insecticides, with no good results. Hand picking is the only reliable measure to adopt, and this should be persevered with daily if this scourge is to be got rid of entirely. From what I hear, it is certainly increasing in many parts of England, and it is one of the most difficult insects to eradicate I ever encountered. I believe some good may be done in winter by forking the soil about the stem of the trees to a depth of 8 inches; in this way some of the cocoons may be destroyed. I am sorry to say that I had no difficulty in finding material from which to make the sketches. It would also seem that certain varieties of Pears are attacked more freely than others; Emile d'Heyst, Clapp's Favourite and Doyenné du Comice seem to be special favourites. No vegetation should be allowed to grow near the trees, as this affords a hiding place for the grubs after leaving the fallen fruit.

A. T.



THE PEAR MIDGE AT VARIOUS STAGES.

1. *Fully-developed fly.* 2. *Grub taken from a fruit.* 3. *Deformed fruit.* 4. *Grubs inside the fruit.* 5. *A perfect fruit.*

STOVE PLANTS.

MANY young gardeners and others who have had no opportunity to gain experience about the management of stove plants—those grown in a rather high temperature and moist atmosphere—are suddenly called upon to undertake a charge including a number of such plants. In the winter they are not very difficult to manage if the requisite heat is maintained and watering is not overdone. At the present time, however, young shoots are growing so freely and flowers are appearing in such profusion, while the richly-coloured leaved kinds are making much progress, that any neglect in regard to the plants may soon cause them to deteriorate to an alarming extent. The Allamanda, Stephanotis, Dipladenia, Clerodendron and Bougainvillea are all very beautiful flowering plants, while the Croton and Caladium are a pair of most beautiful, fine-foliaged kinds.

Well-Rooted Plants may be fed regularly now, and those specimens growing in rather small pots should have a surface mulch of good fibrous loam (first soaking it for twelve hours in strong manure-water), a small quantity of leaf-soil and some sharp sand. This mixture may also be applied with great benefit to plants growing in borders. All well-rooted plants must be fed freely with weak and frequent doses of manure-water, and that in addition to any surface mulch that may be put on. Clear water must be given twice, and in very hot weather three times a day, to prevent the loss of foliage, but the cultivator must make sure that the drainage is sound.

Overcrowding and Tying.—The regular tying in of the shoots of climbers—especially those of the Stephanotis—is a very important matter. The very weakly ones must be cut out, and the others trained thinly to the wires.

Shading and Ventilating.—If the cultivator is experienced, he will not do much shading, but the novice should shade his fine-foliaged plants a little to prevent the lovely leaves being scorched. While the weather is fine admit plenty of air from early in the morning until four o'clock in the afternoon, and when closing the house syringe and damp down freely.

SHAMROCK.

SUMMER TREATMENT OF RASPBERRIES.

How very seldom is anything more done to the Raspberry plants in the summer-time except to strip them of their luscious fruits! Generally, these plants yield fruits freely, even when they receive very ordinary treatment; but if they are given the very best treatment the fruits are finer individually, of better flavour, and the crop is heavier. At the present time the cultivator should examine the plants and duly note those that are small and weak and not likely to be of service next year. Remove all such forthwith. If left they only cause overcrowding, blocking out both sunshine and air from the stronger canes which will be retained. Renew the half littery mulch of manure now, and, directly the fruit is gathered, do the final thinning out of surplus canes. Too much stress cannot be laid upon the importance of pruning after the fruit is gathered. The work is rarely done before the autumn or winter, and it is a very harmful and unnecessary delay.

B.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Dahlias.—These should now be planted, and if in large beds on the lawn, care must be taken in the selection of varieties and their various heights. The dwarfer, stiff-stemmed varieties are much the best for beds, and certainly many of the Pompon and named singles are to be preferred to the pendulous-flowered Cactus varieties. Staking is very essential immediately after planting, though for a week or two it may not be necessary to put the permanent stakes in, especially if the plants happen to be in a prominent position.

Rhododendrons and Azaleas.—These having passed out of bloom, the seed-pods should be carefully removed to concentrate the energy of the plants on the young growing shoots as well as for the sake of tidiness.

Planting Annuals.—A showery time should, if possible, be selected for getting all annuals planted out that have been raised in frames and boxes, and good breadths of the various kinds for cutting may with advantage be planted in the kitchen garden, this being preferable to denuding the borders in and about the pleasure grounds.

Sweet Peas.—These from early sowings are nicely in bloom, and a little assistance may be necessary in the form of liquid manure, or even artificial, once a week to maintain them in vigorous growth. On light soils a mulching of short manure and leaf-soil will help to conserve the moisture, while on soils of a heavier nature the hoe is one of the best mediums. Sweet Peas for exhibition must be kept regularly tied, and if the plants are not so strong as desired, remove the flower-buds for a little while, but not if they are intended for early July shows, as it takes from fourteen to twenty-one days for a bud to open after its first appearance. Syringe overhead in the evenings after very hot days.

The Rose Garden.

Watering.—Should the weather be at all dry, a copious watering or two with liquid manure will now greatly help Roses, giving the surface of the soil a good hoeing over as soon as the water has nicely soaked in.

Aphis at this season is especially troublesome, and a good wash overhead with the hose once or twice a week will help to keep it down. About this date, also, the plants should have a good spraying with an insecticide, for as soon as the flower-buds commence to open they are liable to injury, at least the outer petals may be marked, so an effort should be made to get the plants clean before they become too forward.

Maiden Plants, both standards and dwarfs, must be regularly tied to stakes to prevent them being blown out, there being more danger now that the foliage is getting heavier.

Plants Under Glass.

Annuals in Pots.—There are several kinds of annuals, such as Asters, Stocks, Salpiglossis, Larkspurs, Coreopsis, Statice, Alonsoa and Chrysanthemums, that are very useful in pots, particularly where there is a big demand for pot plants for the conservatory. These may now be lifted from the beds in which they have been pricked out, with nice balls of soil, and potted singly in 4½-inch pots, or perhaps three in a 6-inch pot. If placed in a frame and given a little shade for a few days, they will soon get over the check, and with very little trouble other than watering they will make a nice display.

Salvias may now be potted into their flowering pots and stood out on a nice open piece of ground. Keep the shoots pinched fairly close till the plants are of sufficient dimensions. A little later in the season the pots may be partly plunged in ashes. This will lessen the watering somewhat, and considerably increase the size and appearance of the plants.

Hydrangeas.—Early batches of Hydrangeas that have been flowered in 4½-inch pots should be cut down to within 3 inches or 4 inches of the tops of the pots and stood in an open position in frames or other places, where they will soon break freely, and if potted on, when the shoots are 3 inches or 4 inches long, into 8½-inch pots they will make good plants with six to eight heads for next season, and may be flowered very early.

The Kitchen Garden.

Early Celery will now be forward enough to plant in the trenches, or, in the case of that which may be wanted for exhibition purposes, on the flat with plenty of good short manure underneath the plants. If they lift with good balls of soil and are planted firmly, a good watering will be sufficient to keep them going, though if the growth flags badly, as it will sometimes if it is soft and attenuated, a syringing or two for a few days may be necessary to give the plants a good start.

Onions.—Keep the soil well moved with the hoe, and autumn-sown bulbs that are swelling nicely may be assisted with a little artificial or a good watering with liquid manure about every two or three weeks. Thin the spring-sown Onions as soon as large enough to handle properly, having them from 4 inches to 8 inches apart, according to the size of bulbs required.

Tomatoes.—If not already planted, these should be put out at once, and if the plants are a good size they will soon grow away. A warm position is essential, as also is good firm planting.

Brussels Sprouts and other Brassicas should be planted out as opportunity occurs, choosing, if possible, a showery time, when the plants need a good deal less attention afterwards.

Chicory.—This should now be sown on a fairly light and rich piece of ground in drills about eighteen inches apart, thinning the plants to about eight inches or ten inches apart when well through the ground, and, should the weather be showery, while the plants are in a young state dust frequently with soot to prevent the ravages of slugs.

Fruits Under Glass.

Ripe Grapes.—The houses in which ripe Grapes are hanging must be freely ventilated, and only sufficient moisture used in the houses to keep down insect pests. To preserve the colour in black Grapes it may be necessary to shade slightly, but this only in the event of very hot weather.

Pot Peaches and Nectarines from which the fruit has been gathered should be stood on an ash-bed out of doors, giving sufficient room between them to allow the free use of the syringe or garden engine. A little straw or litter may be placed among the pots to prevent them drying out.

Hardy Fruits.

Cherries.—A sharp look-out must be kept for fly on the tips of the young growths, and, if in evidence, the trees must be carefully sprayed. This operation may have to be repeated two or three times, especially if the trees are badly infested, and wherever possible give them a good wash down with the hose in the morning after applying the insecticide.

Plums also are subject to green fly, and the above remarks apply equally well. Cordon and trained trees may have the points of the growths removed, thus checking the fly and helping the fruit at the same time.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Cutting Over.—Under this heading I would remind readers that many early-flowering subjects have now ripened their foliage or flower-stems, and these should be cut over, as tidiness should be the order of the day. Such subjects include Snowdrops, Crocuses, Narcissi in variety, Crown Imperials and Doronicums.

Watering.—Although not a believer in a too frequent use of the watering-can, still, it has to be brought into use at times, and if a drought sets in, as it often does in June, recently-planted subjects especially may have to be artificially watered. If necessary, attend to the work in the late afternoon, and after the surface soil has dried sufficiently run the Dutch hoe through it. Of spring-planted subjects, Violas and Pansies are the most likely to suffer from drought.

The Rock Garden.

Propagating Pinks.—The fragrance of many species and varieties of the genus Dianthus justifies the appellation of Divine Flower given to it by the ancients, and some of the gems are to be found in the rock garden, as instance D. alpinus, D. cæsius (Cheddar Pink), D. deltoides, D. neglectus and D. superbus. Some can be raised from seed readily, but all can be propagated by cuttings at the present time. Prepare the cuttings or pipings as you would border Pinks, and insert them in pots of sandy soil, packed firmly, and then water through a fine rose. A rather shaded, dwarf pit or frame is invaluable to the owner of a rock garden, and here the pots should be placed, keeping them rather close and shaded until roots have been formed, when the plants should be gradually inured to more light and air preparatory to their being planted in September.

Plants Under Glass.

Herbaceous Calceolarias.—I like to sow these about the longest day, although some growers sow rather later. Make sure that you get a good strain of seed. Some firms are now aiming at selfs or bicolors with large flowers, and they are very effective; but the spotted type should not be elbowed out. Sow in well-drained pans of fine soil that has been watered two hours previous to sowing. Mix the seed carefully with some sand or very fine soil to ensure uniform dispersion of the seed. Do not cover the seed, or, at most, only give a dusting of very fine soil. Cover with a pane of glass, shade with white paper, and place in a cool frame. If the soil becomes at all dry, moisten by immersion. Closely watch the process of germination, and gradually admit air and light, but do not expose to draughts or to full sunlight.

Cinerarias.—Prick off into boxes of light, rich soil as soon as the first rough leaf is formed. Keep rather close for a few days after being pricked off, and maintain cool and moist conditions.

Perpetual Carnations.—Plants that are ready for it should be shifted on into 5-inch pots, using a mixture of good yellow loam, if at all available, with some sand, wood-ashes, dried sheep or cow manure and crushed bones. A sprinkling of soot over the drainage helps to keep out worms and serves as a welcome fertiliser to the plants.

Fruits Under Glass.

Second Thinning of Grapes.—Later crops will now be requiring second thinning. Where the first thinning has been well done, this is a light operation; still, the keenest expert cannot always forecast subsequent developments, and so second thinning is a necessity. Great care should be taken to avoid injuring the berries with the points of the scissors. Any shoulders requiring tying out should receive this attention before second thinning commences.

Watering Vines.—Moisture on the surface of the border is no criterion as to its condition 18 inches below the surface, and this must be determined from time to time by a soil-tester or common auger, and if found to be dry, a good watering must be given, and advantage may be taken of the operation to apply some fertiliser to assist in the process of swelling the crop.

The Hardy Fruit Garden.

Netting Small Fruit.—This work is absolutely necessary nowadays, and those who have not yet gone to the expense of wire netting must fall back on tanned netting, and the sooner it is in position the better; especially is this the case with Strawberries. Strands of wire across the break either way will keep the nets off the ground. Make sure that all is secure at the ground-line, as it is there where the birds look for a means of ingress. For Loganberries use the oldest net, as it will never do duty again.

The Vegetable Garden.

Peas.—If not already done, the last sowing for the season must now be made. Stake succession sowings as they are ready. Early crops in pod should have a dressing of nitrate of soda or soot in showery weather if possible.

Exhibition Leeks.—These will now be growing apace, and they should be provided with cardboard collars to assist in the process of blanching. Draw in a little earth from time to time, and at each earthing slightly raise the collar.

Vegetable Marrows.—As growth proceeds, the leading shoot should be pegged down to prevent injury from winds.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE GREENHOUSE.

REPOTTING AURICULAS.

IT has been the general practice for many years for Auricula-growers to repot their plants annually. This practice was not always looked upon favourably by growers a hundred or more years ago. Some of them advocated the leaving of full-sized plants undisturbed in their pots for a second year, giving additional top-dressings in summer and spring, instead of an entire change of soil as is usual among present-day cultivators. These old growers used pots for their full-sized plants much deeper and wider than are used now; and although we adopt a different practice from that followed by our forbears, we must pay some deference to their ideas, for these were born of the results of a certain measure of trial and experiment. Granted the experiments were not always conducted on the lines we think best, these old enthusiasts achieved results that, I think, would not in any way do discredit to our principal present-day exhibitors. They fixed a high standard to work to, and at their shows in London and district their plants had to have at least seven expanded pips. This rule would handicap some of us when show-day comes round and we are looking for plants for classes of twelve, eight, six, &c. The organisers of these old Auricula shows did not attempt the bold displays we see at our exhibitions, and had no classes for twelves and sixes as we have, but showed their edged flowers almost exclusively in pairs. Our bright and gloriously-coloured alpines were then non-existent. Competition was keen at these shows, and, as I have already said, the old growers fixed a high standard, a standard we have not seen fit to alter. This to our credit. These men of old times fixed the ideals of perfection and set us on the way to attain it; indeed, they got so far on the way themselves that some of their work has hardly been excelled. They raised the immediate predecessors of George Lightbody, Richard Headley and Lancashire Hero, grey-edged flowers that grace the show-boards of our exhibitions to-day.

I have wandered considerably from what I first spoke of; but allowing that these old growers knew something of what they were about, is it not possible that we, in trying to remedy some of their faults, may go too far in the opposite direction? I do not think it is necessary to be quite so severe in the treatment of the Auricula at repotting-time as is sometimes the case. I have heard of some who systematically wash off all soil from the roots; this appears to me to be too drastic a proceeding as a regular practice. Another point as regards the repotting is to be considered: At what time of the year is it best to repot—early or late? By early I mean May to the middle of June, and late, during August. This is a question often asked now, and was much discussed in the days that are gone. Personally, I prefer to pot early, and, if I could, I would have all mine completed before May is out.

The Best Soil.—What compost should be used to grow the plants in? It is not possible to say this or that mixture is the best. Some growers obtain excellent plants and blooms in one mixture, others in another. What is most certain is that good loam full of fibre is the sheet-anchor of all composts, and excellent results can be obtained in that alone if the loam is not too heavy and the drainage is satisfactory. I myself use a mixture of four parts fairly heavy loam, as full of fibre as I can get, and not stacked more than about six months, one part decayed leaves (do not have these from near manufacturing towns, but get sweet leaf-mould from the country), and one part old hot-bed manure. I do not use sand to keep the soil open, but crushed oyster-shell, charcoal and old mortar instead. To these I add a good dusting of bone-meal and soot. It is well to prepare this a few weeks before required for use, and to have it regularly turned over to get the compost as sweet as possible. This latter point is not to be lost sight of. Whatever mixture is used as a potting medium, it must be, above all else, sweet and fresh. Now take the plant to be treated. If an old one, take off the soil sufficiently to enable the main root to be examined for any sign of decay. If any exists, cut clean away to sound growth, putting dry lime on the wound. Shorten the main root if long. If in any doubt as to whether to cut a piece off or not, it is a safe rule to always give the preference to the knife, for it is the upper portion of the main root from which the principal and most useful root-fibres will come, the lower portion gradually becoming of less use. Take off any offsets that may be attached; these, if large, to be potted singly in small pots; if small, to be put round the edge of a 4½-inch pot. If the plant is in a small pot, it can be transferred to a larger one, only taking a little of the soil from the old ball. Pots of 4½ inches in diameter need very rarely be exceeded. Quite large plants can be grown in this size. Take care to work the new soil well among the root-fibres of the plant. Whenever a plant is taken from a pot, the root aphis, which is nearly always in evidence, should be cleared away, either by brushing off with a medium stiff brush or by applying methylated spirit. If the pots used have been soaked in water prior to the plants being potted, and the soil used is in a properly moist condition, the plants will not require watering for two or three days if they are placed in a close frame shaded from the sun. Beware of excessive watering at this stage. Decay is often set up by too liberal applications of water, especially where the roots have been cut. Keep the plants close for a week or ten days after repotting. As they begin to get settled in the new soil, give air gradually until, at the end of a few weeks, the lights can be removed altogether; but always shade from bright sunshine and keep as cool as possible. On the north side of a wall or fence is a good place for the frames during the summer. G. J. S.

SOIL PURIFICATION IN GREENHOUSES.

THE question of soil purification in greenhouses now seems to be attaining more practical shape, and experiment has been busy with sterilisation as a means of ridding the soil of the unhealthy fungoid and other undesirable lower forms of life which undoubtedly cause much trouble to all who cultivate under glass. Tomatoes and Cucumbers are liable to many scourges when grown in this way, and it seems likely enough that the soil is largely responsible for this. Recent research has shown that sterilisation can effectively deal with the matter, and results similar to those in the case of sewage-sick soils have been obtained. Many substances, such as formaldehyde and toluene, have been tried, and it seems likely that a number are useful, and work on a commercial scale has been proved to be practicable. Heat is much the best remedy, but it is expensive—much more so than are chemicals, the alternative method. However, at 1s. or 1s. 6d. per ton of earth purified, it seems that heat is applicable to Cucumbers, Tomatoes in pots and some other plants. Chemicals must, of course, be soluble and harmless, and at the same time potent to kill very low forms of life, as well as such things as eelworms, rotifers and woodlice, all of which are associated with glass-house sickness. G.

PROPAGATING ARAUCARIA EXCELSA.

THOUGH small plants of Araucaria excelsa are by some regarded as of too symmetrical a character, they are admired by many, and there is always a considerable demand for them. In order to keep up the supply, great numbers are raised from seeds, but the plants obtained in this way are not nearly as well furnished at the base as those raised from cuttings. As with all the regular growing conifers, it is, of course, useless to take cuttings of the side branches, as this branch-like style of growth will be always retained. In order to propagate these Araucarias from cuttings, the first thing to do is to obtain cuttings of the right sort. This is done by taking off the top of a plant, and if it is not too strong it may be utilised as a cutting. The old plant will after this often push up two or three leaders to take its place, and when these new shoots are from 4 inches to 6 inches in length, they form the best of cuttings. Put into small pots of sandy soil in a close propagating-case with a gentle heat, they will soon root and quickly form neat, well-furnished specimens. The old plants will continue to push up new leaders time after time. As illustrating the finely symmetrical plants that can be obtained from cuttings, attention may be called to a group of that new variety, Silver Star, which formed quite a feature at the Royal Horticultural Hall on June 3. H. P.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SLUGS AND SWEET PEAS (*M. F.*).—The Sweet Pea foliage is being damaged by slugs, and probably the best remedy to apply will be soot or soot and lime, dusted on. Spraying the plants or watering them with an ounce of potassium permanganate dissolved in a gallon of water often proves a good remedy.

INJURY TO IRISES (*G. K. M.*).—The Irises are attacked by the bulb mite (Rhizoglyphus echinopus). This has destroyed parts of the bulbs and the roots, and the injury to the foliage follows as a result. It would be well to dig up all the bulbs as soon as the foliage dies off, and plunge them in water at about 110° for a short while. This will probably kill most of the mites without damage to the bulbs, and they may then be replanted in a fresh position.

LILY OF THE VALLEY (*H. H.*).—As you can do nothing to the bed before October, you might send us a sample of the weed which you say is choking the plants. It may be of a very insidious type, requiring the most drastic measures to get rid of it. You may discourage it by pulling up all that is possible, and encourage the

growth of the Lilies by frequent doses of liquid manure. In sending the weed, please direct our attention to this reply, when we will furnish full particulars as to what is best to be done.

MYOSOTIS (*E. B. G.*).—The plant is Myosotis alpestris Marie Raphael, and may be propagated from seeds and cuttings. The seedlings would, however, be sure to vary, and true stock could only be depended upon from cuttings. To obtain a stock by these means it would be necessary to plant a reserve batch apart, cutting them down as soon as the first flush of flowers was past. Then, by pricking up the soil and giving a mulching of fresh material, new growth may be encouraged by watering and presently put to use as desired.

"FIRE" IN TULIPS (*H. T. M.*).—The Tulips are attacked by the disease called "fire," to which reference has been made frequently of late in our columns. We should think your soil must be affected by the fungus, which often passes the summer in the soil, and we would suggest that Tulips and other bulbous plants should not be planted in this bed for three or four years to come. There is no cure for the disease, but it would be well to remove all affected foliage as soon as possible, so as to prevent the disease from reaching the bulb and the fungus from forming the hard resting bodies called Sclerotia in the soil or in the bulb.

TREES AND SHRUBS.

CHANGE IN FORM AND COLOUR OF CLEMATIS (*K. M.*).—Are you absolutely certain no mistake has occurred with regard to the Clematis? The change of form and colour over a whole plant is extraordinary. Is it at all likely that the stock has grown up in place of the plant you had?

PLANTING CYTISUS (*Andreanus*).—If plants of Cytisus andreanus prostratus are obtained in pots, they may be planted at once; but if they have to be lifted from a bed, the planting must be deferred until October. It is always better to obtain small rather than large plants, as they transplant more satisfactorily. Plants may be obtained from any of the leading nurserymen for 1s. or 1s. 6d. each.

GALLS ON AZALEA (*H. S. N.*).—The Azalea is attacked by the fungus Exobasidium japonicum. This fungus causes galls, which should be picked off and burned as soon as they are apparent. It is too late to avoid all danger of spread to the other parts of the plant now, as the galls have turned white, showing the spores are developed, ready to spread the disease, but the burning of them will minimise the danger.

GORSE SEEDLINGS (*E. A. P.*).—If you collect quite small plants of Gorse, not more than one year old, there is no reason why you should not establish them successfully in the autumn. At the same time, it would be advisable to procure seeds this year and keep them over the winter; then, if any of the plants die, a few seeds could be sown early next March with the object of replacing the dead plants. There is no reason why you should not collect sufficient seeds for this purpose; but if you wish to procure them elsewhere, any of the firms of nurserymen who make a speciality of forest trees and covert plants, such as Dicksons of Chester, Little and Ballantyne of Carlisle, or Wiseman and Sons of Elgin, would be able to supply them.

PRUNING SHRUBS (*Dion*).—It is not possible to treat all flowering shrubs in the way recommended for Prunus triloba after flowering. Forsythia suspensa, Jasminum nudiflorum and Philadelphus Lemoinei are other subjects that respond to the treatment recommended for P. triloba. A Lilac which is becoming leggy may be cut back after flowering; but it is not advisable to prune Lilacs back regularly. A great point in the successful culture of Lilacs is to restrict the growth of young shoots. The inside shoots and a number of the weaker outside ones should be removed when from 4 inches to 6 inches long, in order that all the energy of the plants may be devoted to perfecting the principal growths on which the best flowers are produced. If a mass of weak wood is allowed to grow, fewer and poorer flowers are obtained. Thorns may be shortened somewhat as soon as the flowers are over, and if the centres are full of weak branches, a few may be removed bodily in order to admit light and air to the remaining branches. It is not possible to give general instructions for pruning flowering trees and shrubs, as almost every kind requires slightly different treatment. As a rule, however, it is a good plan to do any necessary pruning after the flowers fade, and to keep the centres of the trees fairly open.

THE GREENHOUSE.

INJURY TO VINE LEAVES (*Ernestii*).—The damage to the Vine leaves has been brought about by keeping the Vines too close in a moist house with too high a temperature.

INJURY TO LILIES (*L. W.*).—So far as the specimens sent go, it would seem that the plants have been exposed to cold draughts. They may have been suffering from the "Lily disease" last year, but the symptoms of that trouble are not at all evident yet.

CARNATIONS AND GREEN FLY (*M. O. W.*).—It is quite possible that "the blight" referred to by you, which we take to be aphides or green fly, is on other plants as well as the Carnations, and, consequently, cleaning off a few of the insects will have no effect. By far the better plan will be to vaporise your greenhouse with one of the many nicotine compounds now on the market, such as the XL All Vaporiser. If this is done two or three times at intervals of a few days, the pests will be entirely got rid of.

PALM LEAVES WITHERED (*W. L.*).—The two specimens sent are too meagre to enable us to name them with certainty. They look as though the conditions under which they are growing are not congenial, and the Palm certainly requires more heat than you can give it without fire in winter. It should have a dry temperature of about 60° at least in winter, and not below 45° to 50° at night. The Bamboo will probably put up with a lower temperature, but attention to the water supply is most important, and you will probably find the Bamboos are suffering more from this than from anything else.

PELARGONIUMS (*R. H. B.*).—Your Pelargoniums are attacked by a fungus which seems greatly on the increase throughout the country. Highly-fed plants, and those that have had an excess of water at the roots, or are kept in a close, stuffy atmosphere, are far more liable to be attacked than those grown under more natural conditions. With regard to this it must be borne in mind that in South Africa, the home of the Pelargonium family, a clear, dry atmosphere largely prevails. To combat the trouble, give the plants plenty of air, and spray occasionally with one of the many fungicides now obtainable. One very clean in its application is permanganate of potash, the crystals of which may be dissolved in water. The solution should, when ready, be of a pale rose colour.

PERPETUAL CARNATIONS (*R. H. B.*).—As your plants of Carnations are carrying six good shoots, they will not need to be stopped any more. For flowering, 6-inch pots would have been preferable to 5-inch; but if they do well, the strongest may be shifted into larger pots in July. When the roots take possession of the new soil, the plants will be much better stood out of doors than in a close and stuffy atmosphere, as a light, buoyant air is at all seasons very essential to the successful culture of these Carnations. When out of doors they must be stood on a well-drained place, and a gentle spraying with rain-water on the evenings of hot days will be beneficial. They must, by the end of August, be removed into the greenhouse, taking care that they have a good light position, with plenty of air, assigned them. In the winter the thermometer may range from 45° to 50° at night, rising 10° or 20° during the day.

ROSE GARDEN.

GREEN CORE IN ROSES (*K. M.*).—Certain Roses are very liable to the production of this green core, and we think it usually follows a check to growth, such as might be imposed by frost or a dry spell of weather just when growth should be active.

RAMBLER ROSES WITH BLIGHTED FOLIAGE (*Perplexed*).—If you persevere with the Cyllin Soft Soap you will very soon check the green fly. When possible, dip the shoots in a bowl of the liquid for a few seconds. The bruised appearance of leaves is caused by cold winds, and possibly by slight frost. Perhaps the plants need a good sprinkling at the roots. Often ramblers suffer more from drought than we generally suppose, especially if planted where the soil is not often hoed. Cover the soil with short manure, then give each tree three or four bucketfuls of water, and repeat this twice a week.

MANURES FOR EXHIBITION BLOOMS (*Rosary*).—As you desire a change from liquid cow-manure, we should advise either Ichthemic Guano or Clay's Fertiliser, both of which are quick acting and excellent if given in moderation. An excellent quick-acting manure for Roses would be an ounce of nitrate of potash or an ounce of phosphate of potash in a gallon of water. Of course, if you give the latter you would not apply the former, and be careful to water the ground well previously if at all dry. In the case of the guano or Clay's Fertilizer, it would be well to water it in, so that the Roses obtain the benefit quickly. We should be inclined to favour the liquid manure as last recommended, and you could give the Roses the liquid cow-manure a week afterwards; then repeat the potash liquid a week after that, but withhold it if the Roses are showing colour.

ROSA SINICA ANEMONE WITH DAMAGED FLOWERS (*H. E. B.*).—We think the deformed petals are due as much to the season as anything. We have had the same occurrence on the earliest blooms, but the later ones are all right. Possibly the somewhat unripened condition of the wood is responsible for it. We cannot recommend any special treatment beyond the ordinary system of culture. As you know, Crimson Rambler produces its best clusters upon the wood of the previous year, so that you will do well to cut away as much of the old wood as can well be spared. In the case of sinica anemone, this should also have old wood removed to some extent after it has ceased to flower this season. The very small specimen you send us suggests that the plant needs attention in the matter of manure. It would be well to give it some good liquid manure to encourage a more vigorous growth during the summer.

MISCELLANEOUS.

PONDWEED AND COPPER SULPHATE (*J. T.*).—If you apply copper sulphate to the water in your ponds at the rate of one part of copper sulphate to one million parts of water, it is not likely to cause harm to cattle drinking the water, especially if a few hours are allowed to elapse before the water is used for drinking purposes. It has been amply demonstrated by American officials that copper sulphate applied at the above strength has no harmful effect upon human beings or animals, and fish live in water containing a much higher solution. You must estimate the cubical contents of your ponds, and reckon each cubic foot of water as weighing about sixty-two and one-third pounds. Be careful that the copper sulphate is distributed equally through the water.

SEAKALE ROOTS AFTER FORCING (*A. E. H.*).—Such forced roots are no good. Seakale is grown from root-cuttings planted in March, such cuttings making strong roots in the course of the summer and autumn following quite good enough to force in the following winter and spring. You should bear this in mind, and secure early cuttings in autumn or early winter. These should be planted deeply (in trenches) in soil where the position is cool until they are wanted in spring for planting in their summer quarters.

FUNGUS ON WILLOW AND ALLIUM (*W. B.*).—The Willow shoots sent for examination have been injured by the Willow canker fungus (Melampsora alli-salicis albæ) Two different stages of the fungus occur, one on Willow, and more frequently on rods grown for basket-making than on trees, and the other stage on Allium ursinum. If you watch the Willows carefully, you will doubtless find patches of bright yellow spores on the leaves and bark during summer, which result in the dead patches of which you complain. The only practical way to effect a remedy is to cut off the affected branches and burn them. If any wild Allium is growing in the vicinity, dig it up and burn it also. A description of this disease is given in "The Fungus Diseases of Plants," by G. Massee.

VARIOUS QUESTIONS (*Ignatius*).—The shrub sent for name is the Mexican Orange Flower (Choisya ternata). It may be increased by means of cuttings taken any time during summer, and inserted in sandy soil in a close frame or in pots in a greenhouse. It may also be propagated by layering the lower branches in spring. Throughout the milder parts of the British Isles it thrives quite well in the open ground, forming a large, shapely bush with little attention to pruning. In colder districts, however, it must be planted against a wall or be grown in a greenhouse. Any kind of fairly good garden soil suits it. It may be used as a tub plant for standing on terraces if it is so wished. The Smilax is a perennial plant, and is usually grown in a greenhouse or against the back wall of a vinery. It thrives well in a compost of two parts fibrous loam to one part of old Mushroom-bed manure or leaf-mould with a little sand. The best material for potting Geraniums in is three parts good loam to one part of old hot-bed or Mushroom-bed manure with a little sand. You can keep the foliage good by attending to the proper ventilation of the house and the proper watering of the plants. When the pots are well filled with roots, liquid manure should be given occasionally. It is probable that you have starved your plants in the past. Well-decayed manure is better than fresh manure for Potatoes. Either well-decayed farmyard manure or chemical manure rich in potash may be used. Do not manure too heavily, however, or the Potatoes will form too much haulm and too few tubers.

NAMES OF PLANTS.—*Mrs. Cooke.*—Alonsoa incisifolia; Begonia luchsioides.——*G. E. Bennett.*—Pyrus Aria (White Beam).——*G. B.*—Rose Flora.——*H. V. B.*—Diervilla (Weigela) Eva Rathke.

SOCIETIES.

NATIONAL HARDY PLANT SOCIETY'S OUTING.

ON Saturday afternoon, May 31, members and friends of the National Hardy Plant Society to the number of thirty-six travelled in a special saloon from Marylebone to Chorley Wood Station, whence, by the kindness of Adeline Duchess of Bedford, conveyances took the party to Woodside, Chenies, where they were received by Her Grace, who not only extended her visitors a cordial welcome, but devoted the afternoon to their entertainment, personally accompanying the party round the delightful and interesting gardens and afterwards presiding at tea. The gardens at Woodside are, by reason of their owner's wide knowledge and keen appreciation of hardy plants, full of charm and interest, and it need scarcely be remarked that the enthusiasts who constituted the party on Saturday spent a most delightful time inspecting the extensive herbaceous borders, the rockery (recently enlarged), and the sloping banks of the River Chess, which runs through the grounds, and which just now are bedecked with far-reaching masses of Myosotis, Irises, Helianthemums, and a host of other free-flowering plants of dwarf stature, which thrive among rocky boulders let in the bank-sides. Large masses of Primula japonica in full flower were very fine, and in the herbaceous borders Lupinus polyphyllus, both blue and pink, and the fine rose-coloured flowers of Agrostemma coronaria flore pleno were prominent features. Free use is made at Woodside of Hesperis matronalis, and although now past, the faded flower-heads of great drifts of Polyanthus bore witness to what had been a glorious show. Dianthus alpinus on the rockery was just at its best, and many choice Saxifragas were flowering profusely. The hardy plantsmen were unanimous in their high appreciation of the serviceable collection of hardy plants so skilfully disposed and well grown, and Mr. John Dickson, the head-gardener, was the recipient of many congratulations. To go into details of the gardens and the extensive collection of plants would require a large amount of space, but for the present it must suffice to record the fact that the outing proved to be most enjoyable, well organised, and a happy combination of pleasurable recreation and profitable education to all who participated. Before the party left, the chairman of the society, Mr. F. Bouskell, in a few appropriate words, voiced the gratitude of all to Her Grace the Duchess of Bedford for her kindness in first permitting the visit to her gardens, and for so graciously honouring them with her presence as well as providing such hospitality.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices : 20, *Tavistock Street, Covent Garden, W.C.*

NOTES OF THE WEEK.

The Guelder Rose.—Viburnum plicatum is very attractive just now with its snowball-like heads of flowers. It is easy to manage and will thrive in any ordinary soil, which facts should make it more appreciated by suburban and town gardeners. If it is taken up and replanted every two or three years, a check will be put on any tendency to grossness, thus making it less possible to get unwieldy while at the same time increasing its flowering value.

Fruit Prospects for 1913.—According to the monthly report just published by the Board of Agriculture, the prospects for fruit during the present year are of a variable character. Strawberries, Raspberries and Currants promise to be good; but Gooseberries, though good in some districts, are bad in others. Pears, especially in the south-eastern districts, are below the average, while Apples promise a large crop. Plums and Cherries are about normal. In many instances that have come under our own observation, the last two fruits named failed badly in stoning.

A Glorious Garden Pink.—Few hardy plants that have been introduced during recent years have had such a warm reception as Pink gloriosa. This has all the good attributes of the old garden Pinks, and in addition gives us large, bold flowers of bright rose pink colour. Moreover, it remains in flower for several weeks, and in that respect is a great advance over old varieties. The flowers are as large as those of Mrs. Sinkins, but the calyces do not split as they do in that well-known variety, while, owing to its colour, it is far more effective in the garden. But its crowning glory is its scent, which has captivated every visitor to our garden during the last three weeks.

The French Honeysuckle.—Among the many plants that require to be sown now should be included Hedysarum coronarium, or the French Honeysuckle (a name that seems somewhat out of place, as the plant in question is neither a Honeysuckle nor a native of France). Its spikes of deep red flowers, often measuring from 4 inches to 6 inches on stalks from 2 feet to 3 feet high, are very effective at this time of the year. Its sweet scent has an attraction for the bees, so that it should be a useful plant to grow near their hives. There is a white form which is very seldom grown, and can hardly be considered equal to the type.

The Dwarf Mock Oranges.—Just now the several dwarf forms of Philadelphus, or Syringas as they are often erroneously called, are flowering freely, and their fragrant blossoms find a welcome in many schemes of house decoration. For small gardens they are ideal shrubs, because they give better results if judiciously cut back every year. As soon as flowering is over, a portion at least of the old wood ought to be cut away. Usually strong young shoots will be found coming out from near the base, and if the old wood is cut down to these, much better results will be obtained next year. If left alone, these miniature Mock Oranges, generally referred to as Lemoine's hybrids, are apt to get rather thin and unsightly.

Scentless Musk.—At one time Musk was known by its fragrance, but for some unaccountable reason it appears now to have completely lost this precious gift. We have observed Musk in many gardens just lately, and while in some instances the owners have not been acquainted with the fact, yet in no case has any trace of fragrance been found. Now that Musk is flowering in widely-separated districts, it would be interesting to hear the experience of others. Sweet-scented Musk is in great demand, and there is a good future in store for anyone lucky enough to possess it.

An Interesting Experiment in Destroying Lawn Weeds.—Those who are in Southport during the next week or two should make a point of visiting Hesketh Park, where an interesting demonstration in destroying lawn weeds is being conducted. The Boundary Chemical Company offered to supply the authorities free with sufficient Climax Lawn Sand to dress the lawns in the flower gardens there. This offer has been accepted, and the lawn sand will be applied in two operations. It is not often that the public has an opportunity of seeing the results of a demonstration of this kind.

The Double White-Flowered Sweet Rocket.—How seldom one sees this fragrant subject doing really well in the gardens of to-day! The single form is widely grown, but the double variety is one of those plants that belong to the gardens of bygone days. We were reminded of the value of this plant (Hesperis matronalis alba plena) when visiting the gardens of J. C. Eno, Esq., Wood Hall, Dulwich. The fragrance in the eventide and the masses of double white flowers were a pleasure to remember. There is a secret in its cultivation, viz., to replant the side growths annually, otherwise the old clumps are inclined to rot off in the centre.

Cause of Silver-Leaf Disease.—This serious and puzzling disease appears to be more prevalent this year than ever. For several years past one school of scientists has favoured the idea that it was caused by one stage of the fungus Stereum purpureum, others being equally certain that there was no connection between the two diseases, and that the fungus only attacked the trees after they had been killed or seriously injured by silver-leaf. It is now rumoured that the latter theory is the more correct, as silver-leaf is said to have appeared among batches of first year seedlings, the seeds having been sown under conditions which rendered it unlikely that Stereum mycelium was present in the soil. Whatever the source of the disease, it is a most serious one and we trust that definite information as to its origin and cure may soon be forthcoming.

CORRESPONDENCE.

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

Primula Leddy Pilrig.—I find that I must have made a mistake in my letter to you about Primula Leddy Pilrig, which you reproduced in THE GARDEN for June 7, page 286. My gardener tells me that P. beesiana is the pollen parent and has perfume, P. bulleyana being the seed parent. It (P. bulleyana) is scentless. I am sorry to have made the mistake, as I said P. bulleyana was responsible for the perfume and was the pollen parent.—B. BALFOUR-MELVILLE.

Lithospermum prostratum at Comlongan, Dumfriesshire.—The lovely Prostrate Gromwell is cultivated with remarkable success in the beautiful garden of Mr. A. H. Johnstone-Douglas at Comlongan Castle, Dumfriesshire, both on rockwork edging in the flower garden and in the rock garden. Big clumps in the most perfect condition are to be seen, and one mass, only four or five years old, measured quite 6 feet in length by over 2 feet across on an average. This was on a rockwork edging. In the rock garden it is also very fine, though none of the clumps had as yet attained the dimensions of that mentioned now.—S. ARNOTT.

Pæony L'Esperance.—This Tree Pæony, which was figured in THE GARDEN for June 14, is, as far as I know, the first hybrid obtained from the yellow-flowered Pæonia lutea, whose introduction some years ago aroused a deal of interest. It was raised by M. Lemoine of Nancy, who has also given us the double-flowered Gloire de Lorraine. Whereas this last named was, however, only distributed in 1912, the variety L'Esperance was sent out in the autumn of 1909, its price of twenty-five francs being very different from the eight guineas of La Lorraine. As stated in your description, the general appearance of the two would suggest that they have one common origin, the main distinctive feature being that the flowers of L'Esperance are only semi-double, whereas those of La Lorraine have the duplex character very pronounced. Apart from the flowers, the foliage is just about the same.—H. P.

The Germination of Peas and Beans.—For some reason or other several of the Marrowfat varieties of Peas and the tall and dwarf Runner Beans have not germinated very satisfactorily this season. Scarlet Runners have come very irregular, and the Dwarf French Beans came so poor as to make resowing necessary, a task I have not had to do for some years. A gardener at an institute told me the other day that out of five or six quarts of Peas he had not obtained one really good row. The round Pea—Pilot, for instance—has, with the writer, come well, but the Marrowfats are more sparse and weakly than usual. It would be interesting to hear if the above experience is shared by others or peculiar to this locality.—C. T., *Highgate.* [We have found both types of Peas germinate well, but Beans very poorly.—ED.]

The Sun Roses.—The various kinds of Helianthemum are not planted half so freely as they ought to be, for they thrive under conditions which would be almost impossible for many other plants to succeed under, and always bloom freely. Quite recently a magnificent lot of plants were noted growing upon the summit and sides of a stone and earth wall. They were the picture of health, and the glowing masses of white, yellow, pink, red and purple blossoms presented a very attractive picture. Providing the precaution is taken of planting quite small plants from pots, there is no difficulty in getting them to establish themselves either on a wall or on a dry bank; but large plants cannot be transplanted well. It is also a wise plan to destroy old plants which show signs of deterioration and begin again with young stock, rather than try to rejuvenate the old ones.—D.

Toads in the Garden.—In the issue of THE GARDEN of the 7th inst. a correspondent writes that he accidentally killed two toads with an insecticide powder. Could your correspondent give me the name of the powder? I should be much obliged, as I have been greatly troubled with toads round the bee-hives eating my bees, and nothing seems to have any effect on them. Excellent they may be in a garden, not in an apiary.—K. T. [We sent a copy of this letter to an expert bee-keeper, and publish herewith his reply: "The letter *re* toads and bees brings forward an interesting point. Both are so useful in a garden that it seems a pity they cannot live together amicably. I have only once before heard of a case where a toad did any appreciable harm to a colony of bees. If the apiary is kept free from all vegetation for some distance round the hives, and the ground strewn with fine cinders, I do not think the bees would be much molested. The alighting board of each hive should be kept free of the ground, and a little slaked lime might be sprinkled on the ground around the hives. The bees that fall victims to the toad are probably the old, worn-out ones. The hives should be so arranged that it is impossible for a toad to climb up on to the alighting boards. It would be a great pity to destroy toads in a garden. I import numbers into mine, and I do not think I have ever lost a bee from that cause."—ED.]

A BEAUTIFUL COLONY OF SUN ROSES. THESE THRIVE WELL IN POOR, DRY SOIL.

SOVEREIGNTY.

The Snowdrop came like infancy,
Whose coming ever must assure
A dubious world that life may be
Divinely fresh and pure.

The Crocus wakened, as a child
Awakes to marvel at the day
And win the winds, that seem so wild,
To light and genial play.

A romping girl, the Daffodil
Wore a mock dignity—soon lost
When, grown forgetful to be still,
Her golden head she tossed.

The Violet was a gentle maid
Who, having seen heaven's dazzling light,
Would turn aside, as though afraid
To trust her questioning sight.

The Lily passed, a virgin fair,
So stately and so passionless,
It seemed that ev'n the very air
Might venture no caress.

The Rose? Ah, welcome, sovereign Rose!
As womanhood serene, complete,
That all heaven's influences compose
To beauty nobly sweet.

JAMES CARTWRIGHT.

A Useful Greenhouse Plant.—The striking feature that Jacobinia magnifica carnea presents when displayed in a mass or clump is well illustrated in the greenhouse at Kew, where there is a large, semi-circular group in full flower. It is an old plant in gardens, but is by no means so generally met with as its merits entitle it to be. Like many other acanthaceous plants, it must not be continually stopped in order to obtain a bushy specimen, as stout, vigorous growth is necessary for the production of those large, massive heads of rosy blossoms upon which so much of the beauty of the plant depends. Its propagation and cultural requirements are not at all exacting, as cuttings strike root readily, and the growing plants will thrive in ordinary potting compost. During the growing season these Jacobinias require a temperature above that of an ordinary greenhouse, but at the same time the plants must not be kept too close and warm, otherwise they will run up tall and weak. In some gardens the Jacobinias are included in the genus Justicia.—H. P.

Snake's-head Fritillary and Forget-me-nots. It may interest readers to know that I have this spring obtained very pretty effects in the wild garden with Forget-me-nots and Fritillaria Meleagris alba. Large masses of these flowers growing wild in the grass produce an effect both uncommon and beautiful.—L. B. W., *Somerset.*

Shrubby Pentstemons.—The award of merit recently given to Pentstemon Davidsonii will likely stimulate interest in the other shrubby Pentstemons, of which P. Menziesii (Scouleri) may be taken as the type, and which have such a jumble of names and synonyms as to be difficult to unravel. I have grown P. Menziesii here for about eight years, and have had fair success with it. This year is, however, a poor one with me; but in the garden of Mr. Robinson-Douglas of Orchardton, in the Stewartry of Kirkcudbright, I was delighted to see a fine plant of a good variety of P. Menziesii with charming light purple flowers in great plenty. It does one good to see such a fine plant, as, apart from the pleasure derived at the time, it whets one's desire to grow it even better than before—a feeling worth encouraging with such flowers as this. It is in a sunny position in the rock garden at Orchardton, and less exposed to wind than my own plant, which is also in a sunny place. At Orchardton it is planted among the stones, and is in sandy peat. It is an excellent specimen, and has been there for quite a number of years.—S. ARNOTT, *Dumfries.*

The Forget-me-not in the Pleasure Ground.—The note under this head, on page 273 of your issue for May 31, appeared on the eve of my writing to draw attention to the use of this pretty little blue flower in combination with others, for it is not only on the grand scale that things are carried out at Kew that the modest little flower can be made effective, but even on a small bit of rockery bounding some garden steps, at the rear of my house, some very pleasing combinations have occurred by the accidental mixture of the common Forget-me-not and the wild Woodruff (Asperula odorata), which I introduced from a neighbouring hedge bank a year or two ago; and even another pretty effect has been produced by the Woodruff encircling a young plant of the common Bracken, the fresh green fronds of which, springing from the centre of a mass of the white flowers, forms a natural, though somewhat gigantic bouquet, which scents the air around it. The drawback against the Woodruff is, of course, the difficulty in keeping it within bounds when once it has taken possession of the ground.—JOHN R. JACKSON, *Claremont, Lympstone, Devon.*

——The reference to Myosotis alpestris, as grown in the pleasure grounds at Kew, in "Notes of the Week," issue May 31, should induce many amateur cultivators to treat this lovely plant more hardily than they generally do. I have found that in some soils (in town gardens especially) the well-cared-for young plants rot badly in the winter, the centre of each clump decaying. Self-sown seeds in a hard surface give resultant plants which withstand the winter splendidly. Seeds should, therefore, be sown in firm ground.

FORTHCOMING EVENTS.

June 25.—Norfolk and Norwich Rose Show (two days). Southampton Royal Horticultural Society's Rose and Sweet Pea Show. Flower Shows at Croydon, Harrow and Richmond.

June 26.—Canterbury Rose Show.

June 28.—Windsor Rose Show. Reigate Rose and Sweet Pea Show.

TREES AND SHRUBS.

SOME USEFUL SHRUBS FOR THE WILD GARDEN.

THE BUSH HONEYSUCKLES.

DURING the months of January and February a good deal is heard about two species of bush Honeysuckles, Lonicera fragrantissima and L. Standishii, but later in the year little or no notice is taken of the many other species belonging to the same group, although when seen at their best a number of them are very beautiful. The bush Honeysuckles, as a rule, are not very popular, probably by reason of their requirements being imperfectly understood, for it is freely admitted that they sometimes blossom very indifferently. The reason for this, however, appears to be that too much attention is given to pruning, for bushes which are pruned each year rarely blossom well, whereas quite good results are obtained from those which are allowed to develop freely and are practically left unpruned. To allow of this method of cultivation being carried out, though, abundance of room must be allowed, for some of the species form very large plants, anything between 8 feet to 15 feet in height and 10 feet to 15 feet in diameter. As a rule, good loamy soil is the most satisfactory rooting medium, and propagation is easily effected by cuttings or seeds.

The Best Position and Soil.—Many of the species form shapely isolated specimens, especially if given a position exposed to full sun. If planted in shrubberies, they must be so placed that they will not overgrow less vigorous plants, and for this reason they are better suited for the wild garden where each plant can grow alone, or a number of plants of one species can be grouped together.

Lonicera tatarica is one of the commonest species. A native of Siberia, it grows into a large bush at least 10 feet high, and bears its flowers in pairs from the leaf-axils of the young growths during late May and early June. The flowers are fragant and white suffused with pink. The varieties pulcherrima, punicea and speciosa, however, have reddish or pink flowers. Quite different from this species is the North-West American L. involucrata. Forming a bush 8 feet or 10 feet high and as much in diameter, it has dark green, oblong leaves and showy flowers. As is the case with all the bush kinds, the flowers appear in pairs from the leaf-axils of the young shoots. In this case each pair of blossoms terminates a slender stalk about two inches long, and about their base are two large dark red bracts, which continue after the fall of the flowers and form a protecting covering for the shiny black fruits. The flowers are tubular, reddish brown on the outside and orange within. L. hispida is a charming species from Central Asia and Siberia. As its name implies, it is very hairy, the young shoots and leaves being densely covered with soft hairs. The leaves are broadly ovate with a cordate base, the upper surface being green, the under surface glaucous. The fragrant, pale yellow flowers are produced from a few of the leaf-axils about the base of the current year's wood, and each pair is enclosed by two large green bracts which form a cup-like receptacle. The flowers are upwards of an inch in length and about three-quarters of an inch across the mouth. A very dainty plant is found in L. syringantha, a native of China. Growing to a height of 5 feet or more, it is made up of many slender branchlets, clothed with tiny oval leaves which scarcely attain three-quarters of an inch in length, and bearing during late May and early June pretty pale lilac, fragrant flowers. Another showy kind is found in L. pyrenaica. This native of the Pyrenees is of less vigorous growth than many of the other kinds. Forming a bush 2½ feet to 3 feet high, it is conspicuous by reason of its rather large white, pink-flushed flowers, and at a later date by its bright red fruits. L. microphylla is after the style of L. syringantha, but the flowers are smaller. It, however, has a similar elegant habit and is a useful shrub. The Chinese and Mandshurian L. Maackii has created some considerable attention during the last few years, owing to Messrs. Veitch having exhibited well-flowered bushes on several occasions among their new Chinese plants. It is a vigorous-growing plant, attaining a height of 10 feet or 12 feet, and producing its fragrant, white flowers with considerable freedom. L. Ferdinandi, a strong-growing, wide-spreading plant, is peculiar by reason of large ear-shaped stipules which clasp the stem about each pair of leaves. The yellow flowers appear from the leaf-axils, but are continued to the points of the shoots, thus forming terminal inflorescences. In many other cases the flowers are restricted to the base or centre of the shoots. L. translucens is a large, dense-growing bush with cream-coloured flowers. Its fruits are whitish when ripe, and they are so transparent that the black seeds are easily seen through their pulpy covering.

Quite different in colour from the rest of the species are the flowers of L. Maximowiczii, a tall-growing plant from Amurland. In this case the flowers are purple. L. deflexicalyx is another large-growing, spreading species, which bears yellow flowers with considerable freedom. It forms a good specimen plant, but must have abundance of room. L. rupicola is distinct from other kinds, for although its long, slender branches have a somewhat scandent habit, it grows into a shapely bush 5 feet to 6 feet high. The leaves are about an inch long, ovate and dark green, and the flowers are lilac in colour. A semi-evergreen species is noticed in the Chinese L. pileata. This spreads rapidly, but does not increase very fast in height; therefore plants may be 3 feet or 4 feet across, but not more than 1½ feet high. The flowers are greenish white and fragrant. L. nitida is a charming little plant of compact habit, with tiny oval leaves of an evergreen character. L. nigra and L. Xylosteum, on the other hand, are large, vigorous plants up to 15 feet high and as far across. Both bear whitish, fragrant flowers.

The two winter-flowering species already referred to should, of course, be grown, for any shrubs which blossom during midwinter are valuable. Then there are many other kinds of greater or less merit available, but for most gardens a selection of the foregoing species will be found sufficient to include among other shrubs. D.

PROPAGATING WEIGELAS.

THESE useful flowering shrubs, now classed by the Kew authorities as Diervillas, may be easily propagated during the next few weeks by means of cuttings. These should be made from the partly-ripened side shoots, which are best slipped off with a heel of the older wood attached. If this is smoothed over with a sharp knife and the cuttings planted in well-drained pots of sandy soil, and these subsequently plunged in Cocoanut fibre refuse and covered with bell-glasses, roots will quickly form. When well rooted, the young plants must be given an abundance of air and light. H.

THE ROSE GARDEN.

THE BEST ROSES FOR HOUSE DECORATION.

ALTHOUGH undoubtedly there are some Roses better than others for lasting well when cut, it is a well-known fact that the quality of the blooms and the time at which they are cut are great factors in promoting good lasting conditions. A Rose devoid of substance and weak in stem will rarely appear well in the house, whereas the same variety from a well-cultivated plant may last a week. Rose blooms should never be cut in the heat of the day. Early morning or late evening is best, and they should be placed in deep jars of water immediately they are severed from the plant. If the foliage could be immersed, so much the better, and I prefer to keep the blooms for a few hours in a dark cupboard in a cool shed or cellar before placing them in the house.

Roses should never be cut full-blown. Exhibitors know this only too well. A Rose will grow in water, so that if cut at the most in the half-open stage it is best. A few good "stayers" are Frau Karl Druschki, Mrs. John Laing, Ulrich Brunner, Mme. Abel Chatenay, Prince de Bulgarie, Sunburst, Souvenir de Gustave Prat, Liberty, Antoine Rivoire, Joseph Hill, Pharisäer, Hugh Dickson, Countess of Derby, Walter Speed, Gloire Lyonnaise, Jean Noté, Joseph Lowe, Mrs. George Shawyer, Lady Ashtown, Laurent Carle, Melanie Soupert, Mme. Ravary, Mme. Segond Weber, Margaret, Melody, Mrs. Aaron Ward, Mrs. David McKee, White Maman Cochet, Mme. Hoste, Lady Roberts, Paula, Molly Sharman Crawford and Mrs. Foley Hobbs. There are many others, but this is a good representative list. DANECROFT.

DO ROSES DETERIORATE?

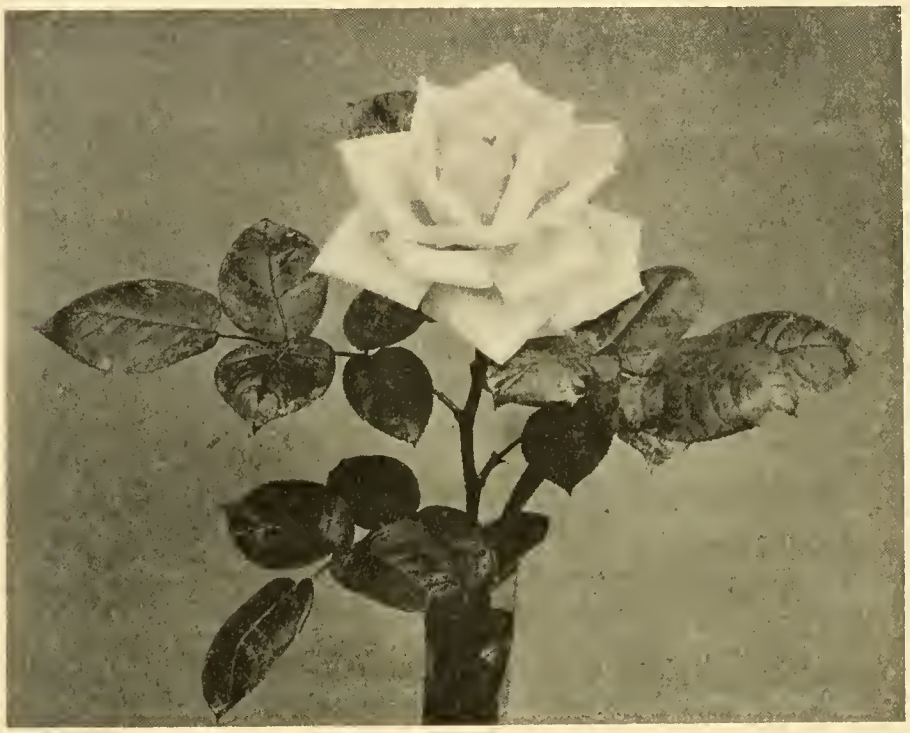
YES; to a certain extent I think a few of them do, and I will endeavour to point out a cause of this later on. But undoubtedly the chief impression of deterioration arises—paradoxical as it may seem—from the wonderful improvements among them during the past two or three decades. Most of us who have closely watched the behaviour of varieties propagated in a reckless manner—by which I mean minus any care or thought in selection—will agree that that variety will surely deteriorate. We find similar results in all phases of existence, no matter what position in the world they may hold.

But this does not wholly account for the evident deterioration of that old favourite yellow climber Maréchal Niel. Here we seem to have gradually lost the charming and healthy vigour so characteristic of it thirty and more years ago. It is much the same with Souvenir d'Elise Vardon and Souvenir d'un Ami. I do not find the beauty and size in these now, and this cannot be all fancy when one refers to the dimensions recorded of previous flowers, because our measurements have not decreased in any way.

Far too often when propagating, one is somewhat loth to make use of the most superb growth upon the plant, and this, I feel certain, works steadily towards deterioration rather than not. It is not alone the enthusiastic amateur who fails in this way—most trade growers are chary in taking the best from their stock; and even when plants are set on one side solely for propagation, the constant hacking away of the fittest wood must tend towards a more or less weakened constitution, and thus we come to the conclusion that the variety has deteriorated.

I am induced to give these few notes from a remark of a friend the other day, who expressed deep regret at the falling off of our Mosses and Scotch Briars. But is not this to be attributed to position and culture? Formerly they, with a few Bourbons and Damasks, formed the chief Rose display in our gardens, and so were naturally accorded more favourable situations and culture than is the general rule now. It is not that they have deteriorated so much as the fact of their relegation to some odd corner, with the natural consequence of less care and attention.

One more thought. Do we not often find a new Rose come disappointingly inferior to those blooms exhibited by the raiser? In the first place, he had the advantage of a large stock to choose from, and, of course, showed his best. But a great deal of this inferiority arises from the use of every little fraction of growth in the desire to increase stock for sale, all but the owner of the stock plants having little choice of selection, and using good, bad and indifferent wood to get as many plants as possible while the price is high. I feel certain that not a few of our new Roses are injured, as a family, by the excessive propagation of all growth, even to the extent of increase from plants that are already a mere travesty upon the original. A. P.



ROSE MRS. C. REED, A NEW SILVERY PINK HYBRID TEA THAT IS VERY FRAGRANT.

A GOOD NEW ROSE.

THE accompanying illustration represents a typical bloom of the new Hybrid Tea Rose Mrs. C. Reed, said to be a sport from the well-known Frau Karl Druschki. When shown at the National Rose Society's exhibition in London last year, this newcomer received a silver-gilt medal, an award that, we think, was fully justified. The flowers are of silvery pink colour, very erect and, what is most valuable of all, deliciously fragrant. The growth is robust, somewhat after the style of Baroness Rothschild, and the plants flower wonderfully freely over a long period. We understand that it will not be sent out before next year, but it is a Rose to note for inclusion with older sorts when it is obtainable. We are indebted to Mr. Elisha J. Hicks of Twyford, Berks, for the photograph reproduced herewith. Mr. Hicks exhibited a number of flowers of this Rose at the Royal Horticultural Society's meeting on the 3rd inst., when their fragrance was freely commented upon.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Brussels Sprouts.—It is high time that an extensive quarter of this indispensable autumn and winter vegetable was planted, and those who have not yet made a start must put the work in hand forthwith. That deep, friable, fertile soil is essential to success none will dispute, but there is little doubt that some amateurs and cottagers use more natural manure than is really necessary. However, this is a detail of management which must be governed by the individual merits of a case, and must, therefore, be left to the discretion of the grower. The distance between the rows and the plants in them will vary with the habit of the variety grown, the old-fashioned, big ones demanding 3 feet in all directions, whereas more compact-growing modern varieties will be adequately accommodated when the rows are 30 inches asunder and the plants are allowed 24 inches in them. The soil of the seed-bed should be thoroughly watered the evening before planting if the weather is dry, and similar treatment may be meted out to the permanent quarters, though

in this case it is often only possible to soak the particular positions that will be occupied by the plants. It is wise to plant firmly, and to water in directly afterwards.

Late Peas.—We must have Green Peas in the garden until the latest possible date, and every year there is something problematical in the results which will be achieved from sowings made between the present date and the middle of July. It is, in my opinion, always worth while to sow a variety such as Sutton's Early Giant during the last week of this month. The seeds germinate quickly in the warm soil, provided, of course, that it contains enough moisture, the plants grow rapidly, and in a favourable season will give a most welcome crop of late Peas which will equal in flavour any of their predecessors. When July sowings are made, it is usually of a hard-seeded variety, and the quality then drops considerably. The soil must be deeply cultivated, in excellent heart and firm.

Asparagus.—With the present date the cutting of Asparagus ought not to be as hard as it has previously been, and certainly the grower must be perfectly sure that enough "grass" is retained to build up strength in the crowns, or the results next season will be the reverse of satisfactory. Some cultivators have a rule never to cut the first and second growths that push through the soil, and it is an excellent system to adopt, but demands more self-control than many of us possess. See that no weeds are permitted to grow, or it will be most difficult, perhaps impossible, to thoroughly cleanse the bed before the tops are cut off in the late autumn. With the advent of July all cutting must cease if future results are to be really good.

Celery.—The planting of Celery should be proceeded with apace, and the importance of closely observing a few details cannot be over-estimated. For example, suckers spring from the root-stock, which, if permitted to remain, will ruin the plants; while if the leaf-miner works unchecked, debilitation will be so severe that the plants can never be excellent. The remedy for the former trouble is obvious—the suckers are cut off; against the leaf-miner dust the plants frequently when they are damp with a mixture of old soot and wood-ashes, and there will be little about which to worry. Then, too, the roots must go into fresh soil, and not in the possibly sour under soil that is exposed in forming the trenches. When the manure has been dug in, add a layer of 3 inches or more of excellent soil to accommodate the roots, and see that they never suffer from the want of water.

Outdoor Tomatoes.—In favoured gardens the Tomatoes for fruiting out of doors would be planted at the beginning of the month, but in cold gardens where the soil is heavy the present time will be wisely chosen. The earliest plants should be splendidly established, and will demand regular attention in removing the axillary shoots to concentrate all the energy in the one stem. If the first fruits are malformed, as so commonly occurs on healthy, vigorous plants, let them be removed without delay.

F. R.

ROCK AND WATER GARDEN.

A ROCK GARDEN FIVE MONTHS AFTER CONSTRUCTION.

ONLY those who have actually carried out the work of constructing a rock garden, or have watched the work from the commencement, know how quickly it can, with judicious care, be clothed with growing vegetation and made to appear as though it had been *in situ* for many years. On a genial day towards the end of April we availed ourselves of a long-standing invitation to see Mr. W. A. Bilney's garden at Weybridge, and although it is not a large one in the strict sense of the word, we found it packed with interesting features from end to end. The main reason for this is, undoubtedly, that Mr. Bilney does the greater part of his gardening himself. As he is a member of the Council of the Royal Horticultural Society, we naturally expected to find it well done, and in this we were not disappointed. But it was the charming little rock garden that interested us most. Constructed barely five months previously by Messrs. Pulham and Son, and planted entirely with Mr. Bilney's own hands, it was a splendid example of what loving care and enthusiasm can do in so short a time; and with a view to encouraging others to go and do likewise we publish an illustration of part of it herewith. Unfortunately, rock gardens do not lend themselves well to photography, and the best of illustrations only convey a rough idea of the general outline of construction and the main features.

A ROCK GARDEN FIVE MONTHS AFTER IT WAS CONSTRUCTED.

But this rock garden is really well stocked with more or less choice plants, the majority of which appeared quite at home and might have been planted for years. We have never seen that glorious red Saxifrage, Saxifraga bathoniensis, doing better, for large masses of it were tumbling about in riotous profusion, and each and all were gaily clothed with the bright red, erect flowers. Large plants of Sun Roses, or Helianthemums, were full of buds, and gave promise of a gorgeous display later; while such gems as Iris pumila, Arenaria balearica and A. montana, Asia Minor Tulips, Veronica repens, Polemonium confertum mellitum, Cheiranthus Allioni, Corydalis nobilis, Pentstemon Scouleri, Phlox setacea G. F. Wilson, Viola gracilis, dozens of encrusted Saxifrages and many other plants abounded on every hand. We think for a rock garden of its size it would be difficult to beat this example, both in construction and planting.

THE VARIEGATED GARLAND FLOWER.

(DAPHNE CNEORUM VARIEGATUM.)

ALTHOUGH not a great advocate of the cultivation of plants with variegated leaves, one must say a word or two in favour of Daphne Cneorum variegatum. It is well known that the ordinary Garland Flower is a troublesome plant with many, and that it is frequently lost in a number of gardens. It is asserted, and, so far as my experience goes, with truth, that the variegated form is hardier, or, at least, more easily cultivated for many years than the green-leaved one. If this is the case—and the evidence on this point seems pretty conclusive—the variegated variety deserves some attention from those fond of these charming Daphnes. The variegation is not at all obtrusive, and is, though present, not noticeable without a closer inspection of the plant than is necessary. The growth and habit are the same as those of the ordinary Garland Flower, but it is a free and happy grower even in places where D. Cneorum itself dies off. I have here a good plant which has been in this garden for seven or eight years, and Mr. W. J. Maxwell, Terregles Banks, Dumfries, has a beautiful specimen in full health on his rock garden.

In May and June this Garland Flower is a picture, with its charming pink or rosy lilac flowers. A peaty, gritty soil is the best for it

Dumfries. S. Arnott.

SOME INTERESTING AQUATICS.

The Water Hawthorn (Aponogeton distachyon).—This delightful small-growing aquatic has been flowering for some time, and is one of the very best subjects that could be included for any position in shallow water and where the stream is not too fast. It continues to flower more or less from now onwards through the summer and autumn, and is perfectly hardy. The white flowers, splashed with black anthers, float on the surface, and are greatly admired. Especially is this so when the plant can be situated close to an overlooking bridge. The blooms have a delicious fragrance, resembling Hawthorn, though not so overpowering. Aponogeton distachyon is also a splendid subject for a small pool or basin in any house or conservatory where a greenhouse temperature not too warm is maintained.

Golden Club (Orontium aquaticum).—This is another aquatic that lovers of water gardening should not fail to be without. Like the foregoing, when once established there is no difficulty experienced with it; but if taken care of, innumerable seedlings will in time be found round the parent plant. Besides being particularly attractive when in bloom, with its broad, glaucous foliage resting on the water and surmounted with its spikes of rich golden yellow, another valuable characteristic is that it commences to bloom considerably in advance of any of the Water Lilies and remains fresh for a long time. Orontium aquaticum is a native of North America, and succeeds best when planted in fairly shallow water not far away from the edge of the banks. Unless suitable pockets are made, as is often the case with artificially-constructed streams, the plants should be sunk and fastened down to the mud, into which they will soon establish themselves, by which time their temporary receptacle, such as a wicker basket or punnet, will have rotted away.

Pontaderia cordata.—The present month is one of the best times for planting most water-loving subjects, and it is not too late for this summer-blooming plant. A colony near to the bank, when established, forms an imposing sight. Pontaderia cordata is commonly known as the Water Plantain of Jamaica. It produces large, handsome foliage, which stands out of the water together with the spikes of deep blue flowers, which are freely produced. P. cordata is unique by reason of its colour, and is, therefore, one of those subjects we cannot afford to be without. It will quickly establish itself near to the bank so long as the roots are submerged.

Aldenham House. Edwin Beckett.

THE CREEPING SANDWORT (ARENARIA BALEARICA) IN THE ROCK GARDEN.

THE CREEPING SANDWORT.

(Arenaria balearica.)

This is an indispensable Sandwort for clothing bare rocks and stones on the shady side of the rock garden. It clings closely to the rocks, forming a carpet of green, which, in early summer, is smothered with dainty white flowers. So long as this Sandwort is not exposed to the full sun it will clothe the largest rocks with its clinging foliage. It needs only a glance at the accompanying illustration to get an idea of its mode of growth and freedom of flowering. It is quite a good subject for clothing the rocks in association with hardy Ferns or other shade-loving plants. It is a native of Corsica and was introduced as far back as 1787.

PRIMULA INVOLUCRATA IN A SCOTTISH ROCK GARDEN.

I have long known and admired the charming Primula involucrata, and have seen it now in a goodly number of gardens, and always with a growing appreciation of its beauty, yet it was only a few days ago that I ever realised its absolute charm, and this was through seeing it in the rock garden of Mr. W. J. Maxwell at Terregles Banks, Dumfries, where, in addition to other plants, there is a nice group of P. involucrata in a hollow formed by rockwork capped by Mossy Saxifrages and other alpines. Looking across at this clump of P. involucrata, one saw it with a background of one of the larger white Mossy Saxifrages, and could then realise the purity of the colour of the flowers of the Primula. One would hardly expect a white Mossy Saxifrage to form a good background for P. involucrata, but it did, and the effect was indescribably beautiful. It was a harmony, yet a contrast. The Primula was very beautiful, the stout stems carrying a number of perfect flowers of purest white, redeemed from absolute coldness by the yellow eye. In Mr. Maxwell's garden the drainage is absolutely perfect, and even such a moisture-loving Primula as this is appreciates the free run for surplus water. S. A.

COLOURED PLATE.

PLATE 1473.

A NEW DWARF YELLOW ARUM LILY.

(Richardia Mrs. Roosevelt.)

At one time the only Arum Lily at all extensively grown was Richardia africana, otherwise known as the Lily of the Nile or white Arum, a very elegant and still a deservedly popular plant. The yellow Arums are of later introduction; the two species R. elliottiana and R. Pentlandii, the latter with a deep purple-brown blotch at the base of the spathe, each created a mild sensation when shown for the first time. In the variety Mrs. Roosevelt we have the most recent introduction, and it is claimed to be the only yellow Arum suitable as a garden plant. The light yellow flowers and beautifully-spotted foliage make it an object of interest and beauty. It is a plant that cannot fail to arrest attention, and when seen in a group it creates a remarkably fine effect. It is quite free-flowering, and does well in almost any garden, more especially where the soil is rich and supplied with plenty of moisture. The growers of hardy flowers have the highest opinion of this plant. Not only is it easily grown, but it continues to flower for eight or ten weeks during the summer months. The following cultural notes will, it is hoped, prove helpful to those who contemplate the inclusion of this novelty in their gardens. The tubers are perfectly hardy, and should be planted in a moist situation, liberal supplies of water being necessary throughout the growing season. When dormant, the tubers should be covered with about two inches of soil, to which

The New Yellow Arum Lily
Mrs. T. H. Roosevelt.

Kearns, Ltd., Printers, London, S.E.

decayed manure should be added from time to time as growth advances. By following out this plan the roots are kept both warm and moist, and provide just the conditions for growth that are necessary in the spring of the year.

This new Arum, as its name implies, originated in America, and when shown at St. Louis received a gold medal. Since then the Dutch Bulb Growers' Association have granted it a first-class certificate. A number of nurserymen in this country, and also on the Continent, now hold good stocks of it, for which, when its merits become better known, we think there will be a large demand. Unfortunately, owing to the large size of the foliage, the coloured plate does not show the characteristic gracefulness of the plant, which needs to be seen growing to appreciate its beauty to the full.

FLOWER GARDEN.

EREMURI IN THE WILD GARDEN.

THE larger of the Eremuri are fine plants for the outskirts of the garden, or preferably for well-sheltered, sunny places in thin woodland where this adjoins the garden. Their whole aspect is so surprising and the height of the giant flower-stem so great that they are out of scale with ordinary garden plants; moreover, the one that is most generally grown, E. robustus, has large roots that radiate horizontally, much like a cart-wheel without the tyre, so that each plant requires an uninvaded root space of 5 feet diameter. Although so large, the roots are of a brittle texture, easily broken; they are impatient of any disturbance and need careful handling at planting-time. This should be when the plants are not more than three years old. They enjoy deep, sandy loam, well drained and well enriched, and are thankful for a protective winter mulch. The grouping as shown in the picture is a little scattered; it is best, whenever possible, so to place them that the group tells more or less as one mass from the spectator's point of view. In the case of plants such as these, whose nature of root prevents their being planted near together, the effect of good grouping can be obtained by having the length of the group running front and back, or, better still, diagonally to the path from the chief point of sight, rather than at intervals along both sides of the path.

E. robustus rises to a height of 10 feet. There are others of the genus that can also be grown anywhere to the South of London. For garden grouping and good colour arrangement they fall into two groups, viz., E. robustus, flowers pale pink; E. himalaicus, with a beautiful white flower, 7 feet to 8 feet; and E. Olgæ, pink, about three feet high. The plants of the other group have flowers of yellow or yellowish colour and are of lower stature. The most useful of these are E. aurantiacus, from Afghanistan; E. Bungei, a Persian plant, rather tender; and the quite hardy E. spectabilis. None of these exceed a height of 3 feet.

The strap-shaped foliage of the Eremuri is all radical, and does not in itself make much effect. It is well to group near them plants with leafage of a different class and of bold effect, and with flowers whose colour will neither clash with nor overpower the tender colouring of the giant spikes.

AN EFFECTIVE GROUPING OF EREMURI IN THE WOODLAND OR WILD GARDEN.

Such would be the great Heracleums, of which H. mantegazzianum is much the best, and the ornamental Rhubarbs. These should be at the back, and, more forward, such plants as the larger of the hardy Ferns, Rodgersia podophylla, with its handsome red bronze leaves of Horse Chestnut shape, and the bold form and tender pink bloom of Saxifraga peltata, with a background to all of trees of dark foliage. G. JEKYLL.

SOME USEFUL HARDY PLANTS.

MANY species of the genus Orobus should be represented in those gardens where herbaceous plants are treasured. They are classed by some as a division of Lathyrus, which they closely resemble, differing, however, in having no tendril at the tip of the petiole. Their culture is easy; any good soil and a fairly sunny position fulfil their requirements. They can be increased by division in spring.

Some of the best varieties are: O. vernus, with violet and blue flowers in April and May, grows about one foot high. O. v. roseus also flowers at the same time as O. vernus. It grows about fifteen inches high and is suited for the front of the border, where a good clump makes a pretty show; it is one of the nicest spring-flowering plants we have. O. aurantiacus is of spreading growth, with pale green foliage and orange flowers that open in June. O. varius is a charming plant, growing about eighteen inches to two feet high. It has long, narrow, glaucous leaves, and bears spikes of sulphur and orange red flowers, an uncommon combination of colour. O. lathyroides is a plant that should be in every collection. It is a strong, erect grower, 2 feet to 3 feet in height, and bears spikes of lovely deep blue flowers in June and July. This variety is easily raised from seed, making nice plants the second season; they vary slightly in colour, however.

E. G. DAVISON.

Westwick Gardens, Norwich.

SOME GOOD UNCOMMON HARDY PLANTS.

Sedum amplexicaule.—A very uncommon and most interesting Sedum I saw it for the first time in Mr. Simpson Hayward's lovely rock garden near Stow-on-the-Wold, and I believe he was the collector of this gem. It is a miniature Sedum, with lovely glaucous foliage and clear yellow flowers; very valuable for the moraine. At certain periods of the year it curls up like the Rose of Jericho and appears quite dead, and in spring it breaks out again and thrives beautifully Propagated by division. Flowers in June.

Phlox subulata Lady Thiselton-Dyer.—Undoubtedly the gem of subulata Phloxes after Phlox Vivid, from which it is quite distinct. The flowers are a beautiful rose pink, with a distinct carmine eye. They are smaller than those of P. Vivid, but are much more freely produced. Easily propagated by cuttings or layers. Flowers in May.

Sedum Willisii.—A good and uncommon Sedum, with foliage very like Sedum obtusatum, but it is of quite prostrate habit and has clear yellow flowers, which are very effective upon the red-tinted foliage. Flowers in June. Propagated by division.

Dianthus deltoides × cæsius.—A good new Dianthus. A very healthy grower and showing distinctly both of the parents. It grows about nine inches high, with flowers much darker than D. cæsius and not fimbriated. Flowers in June and easily propagated by cuttings.

Anthemis cupaniana.—For a bold effect on a large rockery this cannot be surpassed. In general appearance it resembles a bedding Marguerite. It has a prostrate habit and nice grey foliage; very free-growing. Flowers in May, when the plant is covered with pure white blossoms. Propagated by cuttings.

Anthemis nobilis flore pleno.—A plant that will rival, if not surpass, the ordinary Pearl (Achillea Ptarmica flore pleno). It is of neat habit and suitable for the rockery. About one foot in height and covered with double Daisy-like flowers about three-quarters of an inch in diameter. A very continuous flowerer and a very showy plant. Flowers in June and July. Propagated easily by cuttings.

Epilobium macropus New Zealand.—A gem among miniature Epilobiums, with neat foliage, dark in colour, marbled with white. The flowers are white, about half an inch in diameter, and very floriferous. It far surpasses in every way E. nummularifolius and E. Hectori. It loves a moist, shady soil, flowers in July, and is easily propagated by division. E. C. BOWELL.

AN OLD-FASHIONED TULIP SHOW AT WAKEFIELD.

NOTES ON TULIPS.

I HAVE never had a more interesting floral experience than that which it was my good fortune to have on Monday, the second day of the present month of June. I then attended as an honoured guest the show of the Wakefield Amateur Tulip Society. For seventy-eight years without a single break this annual show has been one of the more or less important events in the life of this city, or, as I would prefer to call it, this ancient town. Seventy-eight years prepares us for something old, and in very truth it almost seems, looking back on the day, that I was the only modern thing there. There was the same old venue, the big room of the Brunswick Hotel. There were the same old varieties of flowers, many of them actually grown by those champions of the past—Hepworth, Holmes, Mellor and Gill. There was Hand Drum (Andromeda), which had probably been covered and uncovered again and again by old George (Gill) as he sat in his little workshop thinking partly of his boots and partly of the weather. Every shower of rain and every gleam of sun the plodding enthusiast noted, and then with almost electric swiftness he would run out and give his beloved blooms the exact treatment they required.

The room was the same. The flowers were the same. Yet perhaps not altogether. Were there any breeders there in the days of long ago? Even now, stern old James Knowles will not countenance them in his garden. This ancient veteran won the copper kettle (the blue ribbon of Tulipdom) in 1860 with the celebrated Polyphemus. With him as it was then, so it must be now, and so it ever will be; hence I rather think the advent of the breeder (or self colour) in such numbers as the present schedule provides for is one of those modern innovations which would make many now dead and gone turn in their graves at the sad falling from grace of their spiritual descendants. Yes; the same old room. Almost the same old flowers; the same old bottles. One very old bottle, it is interesting to observe, was placed in front of one of the "pans" (the technical word in Tulipise for stand, probably dating back to a time when the receptacles for showing the threes and sixes in were of earthenware) has certainly been in existence for a hundred years, probably many more, for they were well used when Abraham Holmes, the Parish Clerk, took over the duties of the secretaryship in 1835 and dated everything from his acceptance of office. Even the modern octagonal ones, Jesse Hardwick, an ex-secretary, told me had known thirty-five shows.

The judging, too, was a relic. Downstairs sat the secretary (Mr. Irving Whitworth) and the competitors. Up above Messrs. Needham and Netherwood adjudicated, and as the prizes were awarded, down the successful pan or bottle was sent for their approval or disapproval. History does not relate what would happen if it was the latter. Were they all James Knowles's, there would be something "strong" said, I am sure, and Mr. Needham would have got it worse than he did when the Peggs (a variety called Elizabeth Pegg) he kindly sent as a present did not turn out all that they were expected to do.

The single bloom, or what may be called the bottle, classes are, naturally, judged according to Tulip custom. This is peculiar, as far as I know, to the flower, and not to Wakefield. Still, a brief explanation may be interesting. No one may take more than two prizes in any one class, but he may enter as many blooms as he likes. Frequently a man will put up ten or a dozen. What happens then is this: Each lot is arranged in rows, as may be seen behind the front row of prize-winners on this page. The judges select from everyone's lot the best two. When these are all picked out, the best four, six, or eight, as the case may be, are picked out and judged in the usual way. Naturally, judging is a long process. This particular show suffered, I am sorry to say, from the vagaries of our changeable climate. Fifteen members had entered and duly paid up their 4s. When they met in early May, they had little but hard, green buds, and it was settled to have a late date. A short spell of hot, bright, dry weather came. Everyone's blooms were hurried out in a half-grown state. Very many were entirely spoiled, and so only nine out of the fifteen actually staged.

The large silver medal for the best pan of six was won by the secretary (Mr. Irving Whitworth). He had a grand example of Coningsby Castle, a feathered byblœmen, which had just passed its best, or it would have won the silver Rose bowl for the best flower in the whole show. His success would have been popular. He is, comparatively and figuratively speaking, a young grower. Thirteen years ago he only looked at them over a gate as they were blooming in a neighbour's garden. With true missionary zeal, that aforesaid neighbour set him up with a small collection, and ever since he has been a keen cultivator, while six years back he took over the secretarial office from Mr. Jesse Hardwick, who had to relinquish it owing to advancing years, but who was still hale and hearty, and who on this occasion (June 2) celebrated his forty-fourth time of exhibiting by winning the prizes for the best flamed and the best breeder with magnificently-coloured examples of Sir Joseph Paxton, grown in his quarry garden at Normanton. The best "feather" was a sweet little example of William Wilson, a lovely bizarre, with blackish brown markings on lemon yellow. The Tulip Society of Wakefield can justly boast of its ancient lineage, its famous names (among which that of Hepworth is still one to conjure with) and its strains. The Wakefield Paxton at its best is simply grand, and even now knows no superior. I fully appreciate all this; but regarding the society with the practical eye of matter-of-fact utility, I venture to think that by no means the least important reason which justly fills it with pardonable pride is the part it must play in the lives of the humble toilers, who compose 95 per cent. of its membership. Long life to the society; a long term of office to the secretary; a long list of keen members; many imitators. JOSEPH JACOB.

GARDENING FOR BEGINNERS.

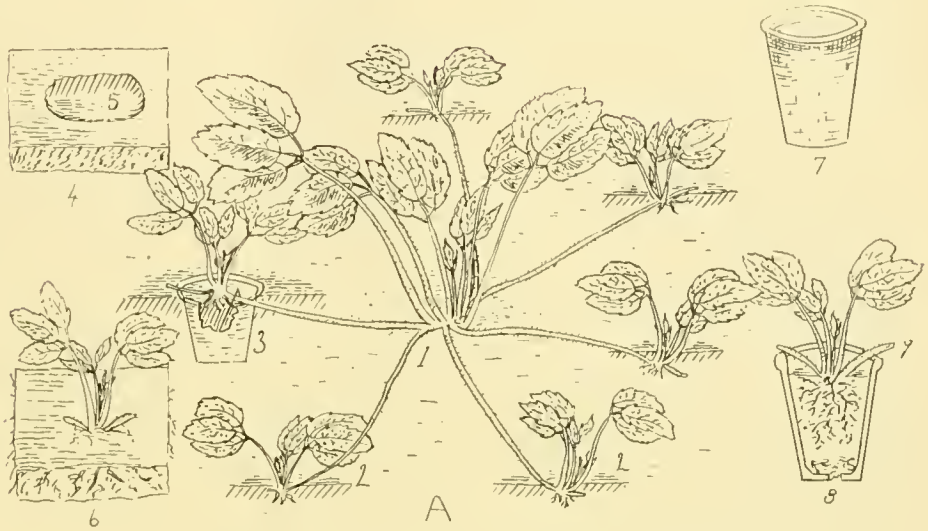
HOW TO LAYER STRAWBERRIES.

THE successful cultivator of these plants, whether in pots for forcing or in open borders in the garden, must not delay in getting a well-rooted stock of young plants. Frequently there is no attempt made to layer runners until all the fruits are gathered from the old plants. Such a delay is disastrous, because it is not possible to secure plants that are sufficiently well rooted to support a strong crown which will contain in embryo a large truss of flowers. Plants badly rooted cannot withstand forcing, and those in open borders cannot develop into fine specimens by the following fruiting season.

The Best Time to commence the work of layering is directly the first plants on the runners from the parent stock are large enough. Even if the old plants are ripening fruits, no damage need be done to the latter if ordinary care be taken.

How to Prepare for Layering.—The runners must not be touched before the actual day of layering, but both pots and compost should be got ready. Small but deep pots are best for both purposes—layering for forcing and also for new plantations—but where such pots are very scarce, small squares of turf which have been cut about three months are very serviceable. The pots must be quite clean, especially the insides of them, so that when turned out in due course the roots will not adhere to the sides and be broken off. The best compost is made up as follows: Turfy loam, two parts; leaf-soil, one part; horse-manure, which has been turned over daily for a week, one part. Some sand may be added, but it is not really necessary. Clear away weeds from around the parent plants, and then carefully draw out the best runners, removing every young plant from each runner except the one nearest the parent plant.

Fig. A.—No. 1 shows the parent plant, and Nos. 2, 2, the runners made ready for layering. No. 3 depicts how each young plant must be made secure in a small pot, either by pegging down or by laying a fairly large, flat stone on it. Stones help to maintain moisture in the soil in the pots, and thus hasten root action. It is best to bury the pots well in the ground, as shown, because, if knocked over, the runners in them are loosened and delayed in forming roots. Water regularly in dry weather through a fine-rosed watering-can. No. 4 shows a square of turf—about four inches square—and No. 5 a small hole in the centre. Into this hole place the runner plant, and cover with fine soil and a stone. No. 6 depicts the young plant well rooted in the turf and ready for potting or planting out. Nos. 7 and 8 illustrate the deep pots, and No. 9 the runner plant severed from the parent when rooted, as shown in No. 8 pot.

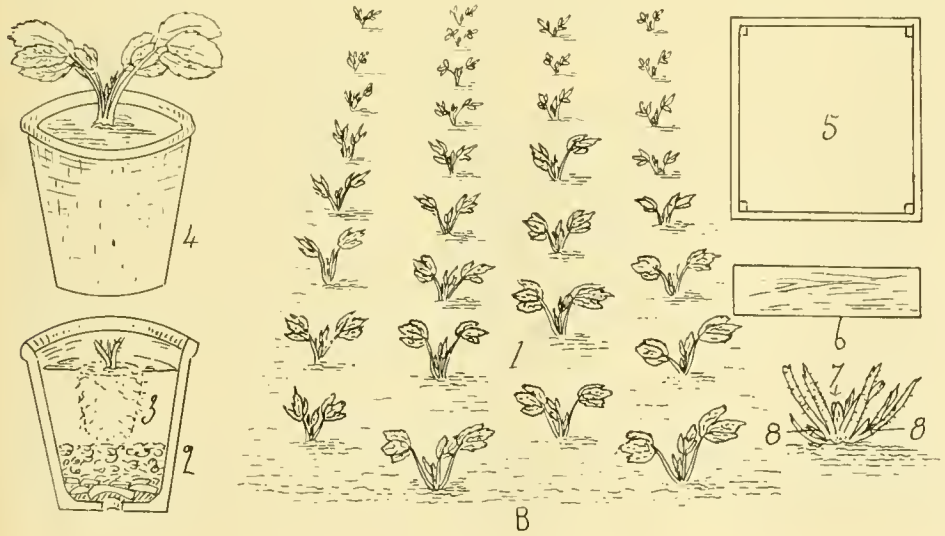


VARIOUS METHODS OF LAYERING STRAWBERRIES.

Fig. B.—The new plantation is shown at No. 1, the plants being put out 18 inches apart in rows 2 feet asunder. Trench the ground 24 inches deep and well break up the lumps; if poor in quality, add a liberal quantity of rotted manure, and immediately surface mulch with half-rotted manure.

Putting Layered Plants in Fruiting Pots.—No. 2 shows a fruiting pot 6½ inches across. Very careful crocking is essential. Many crocks need not be used, but those put in should be carefully placed. No. 3 depicts the ball of soil of a young plant laid on the rougher material in the large pot, and No. 4 the young plant as it appears when potted. Pot firmly, leaving a space of 1½ inches.

Autumn and Winter Positions.—Take the plants direct from the potting-bench to the sunniest position available, using boards to place the pots on. Give clear water only, but never neglect the watering, though it is unwise to unduly soak the soil. I water with diluted liquid manure when the pots are well filled with roots, so as to get the central crowns well plumped up. In winter place the pots close together in blocks, packing ashes, leaves, or litter round them, but not covering the tops, unless severe frosts occur. Boards fixed on edge, as shown at Nos. 5 and 6, will keep the block of plants and materials tidy. The central crown, No. 7, is the most important. All side crowns, Nos. 8, 8, must be removed while quite small. For the final potting use good loam and horse-manure. SOLENT.



A NEW STRAWBERRY PLANTATION.

SHADING THE GREENHOUSE.

VERY few greenhouses have a full complement of climbers on the roofs. It is not wise to have a too shady structure if fine pot plants are to be grown on the stages. The house, however, which has an almost bare roof—one devoid of climbers—is much hotter than a vinery, or even a plant stove. I strongly advise cultivators to lightly shade their bare-roofed greenhouses (except where Tomatoes are grown) and help the plants to make a healthy growth. There are many suitable compositions and materials advertised in THE GARDEN, and a good home-made shading is a mixture of butter-milk and whiting. Never use lime, as it destroys the paint. G. G.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Watering.—In the event of hot, dry weather, the recently-planted subjects will need a good deal of attention to give them a fair start. I do not favour too much artificial watering where it can be avoided, but one must not allow the plants to stand still or go back for the sake of a good soaking or two. Soft-growing subjects, such as Fuchsias and Coleus, are very much benefited by a spray overhead each evening.

The Herbaceous Borders.

Pæonies and Aquilegias that are going out of bloom should have the stale flower-heads removed, in the case of the first-named shortening the leaf-growth back a little to give the other occupants of the borders more space.

Delphiniums throwing up their spikes should be neatly staked, and as these are fairly gross feeders, one or two waterings with liquid manure will do them good, or even on very light soil a mulching of short manure will prolong the flowering season considerably. This mulching of short manure may with advantage be given to many subjects, especially where the plants have not been shifted for a year or two, and Phloxes, Asters, Helianthuses and Rudbeckias will all show their appreciation by an increased vigour in their growth and a longer season of blooming.

Violas.—To maintain a show of bloom through the summer, this beautiful subject must not be neglected. Dead blooms and seed-pods must be removed regularly, going over the plants at least once a week. A little Clay's Fertilizer sprinkled among the plants during showery weather will do much to help them maintain the deep green in their foliage which is such a grand offset or contrast to the flowers, no matter what colour these are.

Polyanthuses.—Many people sow these during February and March in boxes, and though they are somewhat slow-growing in the early stages, they should be quite ready for pricking out in beds on the border by this time.

Plants Under Glass.

Chrysanthemums.—If not already done, all plants should be spaced out and staked, giving as much room between them as space will allow. Two feet should be the minimum, though 3 feet each would be better, and in the case of decorative varieties and singles this would ensure them making nice shapely plants with well-ripened wood.

Stopping.—After this week no varieties of decorative and singles should be stopped, unless it is one or two of the dwarf-growing varieties which are to be flowered in small pots. A few of the Japanese varieties, such as J. H. Silsbury, Master James, White Queen, Queenie Chandler and others that are very early on crown-buds, if stopped now will give good flowers from November 1 to November 10.

Malmaison Carnations.—Plants from which the flowers have been cut may be placed in a cold frame preparatory to layering, giving them frequent syringings to clear them of spider, should any be in evidence.

Potting On.—Plants intended for potting on should also be cleaned, and if space is available in the houses or frames, they may be potted at once. Nine-inch pots should be large enough to carry them through the second season, using a moderately open compost, which should be well rammed to induce a very stocky growth. After potting, the plants should be lightly syringed overhead in the afternoon of very hot days, while the stages and paths should be frequently damped. Shade also must be given during the heat of the day, but only sufficient to keep the foliage a good colour and to keep the soil from drying out too quickly.

Tuberous Begonias that are well rooted and throwing up bloom should be fairly liberally fed with liquid manure, occasionally giving a pinch of guano to each plant. Give plenty of air and sufficient moisture to keep the plants in good health and free from insect pests. If thrips appear, fumigate lightly on two or three successive evenings, and this should quite rid them of this pest.

The Kitchen Garden.

Parsley.—A sowing should now be made to provide a supply for the late autumn and winter months. Should the weather be very dry, mats may be put over the seed-bed after watering in. This will help the germination, but the mats must be taken off as soon as the seedlings appear.

French Beans.—Continue to make sowings of these to keep up the supply into the autumn. Those coming into bearing must be liberally supplied with water, should the weather be hot and dry, or the crop will be a short one.

Runner Beans.—Early-planted batches or rows are growing freely, and mulching with long litter will help to conserve the moisture; and to get a good and early set of pods the plants must not be allowed to get dry, and a good syringing overhead will help them considerably.

Fruits Under Glass.

The Orchard-House.—Apples, Plums and Pears are fast swelling their fruit, and great care will be needed in watering. Liquid manure may be given freely, alternating this with an occasional dressing of artificial manure. The syringe must be freely used morning and evening to keep down insect pests, giving an abundance of air during the day. Unless it is necessary to hurry the trees, it is not advisable to shut the house up close either day or night.

Peaches ripening in pots may with advantage be placed on the shady side of the house, a steady ripening process often resulting in better-flavoured fruit.

Hardy Fruits.

Aphis.—Seldom have I known hardy fruit so badly infested with fly as during the past month, and though the trees have been syringed several times, they are still badly infested. About the only way of keeping it under is to frequently give the trees good washings down with the garden hose.

Strawberries.—Late varieties, such as Givon's Late Prolific, Laxton's Latest and Waterloo, will be greatly benefited by a good soaking or two of liquid manure. The former variety is probably the best of all late Strawberries, for though it does not give as heavy a crop at one time as do many other varieties, its continuity of fruiting makes it quite indispensable.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Lifting Narcissi.—The foliage of the earlier varieties will now have died down, and, if it is intended to lift any of them for the purpose of division, or in order to give them a change of soil, the sooner this is done after the foliage has thoroughly ripened the better. Spread the bulbs out in the sun, to perfect the ripening process, and then separate the offsets of varieties which it is intended to increase as far as possible. Keep in a cool, dry place till wanted for planting.

Top-dressing Phloxes.—The herbaceous Phloxes are surface rooters, and are much benefited by receiving a top-dressing during the course of the summer; the best time to apply it is just when the roots begin to show on the surface. Good loam forms the ideal top-dressing for them, but old potting soil, slightly enriched, will suit them quite well. Phloxes are among the first things to suffer for the lack of water in dry weather.

Sweet Violets.—Where young plantations of these have been made, they will now be growing freely. While I would recommend it for all and sundry, it is imperative in the case of plants intended for forcing that all runners be pinched out at an early stage.

The Rock Garden.

Propagating Cheiranthus.—What one may term the alpine Wallflowers are highly suitable for the rock garden. Those well known to me are C. Marsballii (deep orange), C. ochroleucus (pale yellow), and C. mutabilis, with its now improved form, C. m. purpurea. As soon as cuttings of these are obtainable, they should be taken, prepared, inserted in pots of sandy soil and stood in a close frame or pit.

The Wall Garden.

Thinning Seedlings.—Where seed was sown in the spring the seedlings will require thinning, and the extent to which this will have to be done will depend upon the character of the subject in hand and the results of germination. The work should be done during showery or dull weather, and if these conditions do not obtain, water both before and immediately after the operation.

Watering.—The next two months will be the most trying period of the year for the wall garden, and unless it takes the form of a retaining wall, a good deal of artificial watering will be required if the weather is at all dry.

Plants Under Glass.

Staking Chrysanthemums.—The work of final potting will now be over, and, if not already done, the plants should be placed in their summer quarters and fully staked. Those grown for large blooms may be placed in a line or lines running east and west, the stakes to be tied to a strand of wire stretched along the line. If a board on edge is run along in front of the pots, it will save much watering and keep the ball of soil more equable both as regards moisture and temperature. Bush plants can be arranged as indicated above, tying two or the stakes to the strand of wire.

Libonias.—L. floribunda and L. penrhosiensis, although not showy, are two very attractive greenhouse sub-shrubs. Plants that were rooted early in spring should now be ready for a shift into 5-inch pots, which are quite large enough for these plants the first season. Equal parts of fibrous loam and good flaky leaf-mould with a little sand and a dash of bone-meal will form a suitable compost for them. A cold frame is the best place for them until the middle of September.

Salvia Heerii.—This Salvia is very showy in the conservatory in the spring. Cuttings rooted in heat in spring should from May onwards receive the same treatment as bush Chrysanthemums.

Fruits Under Glass.

Late Melons.—If vigorous plants are in readiness, a second batch may be planted to succeed the early crop. The glass and woodwork should be thoroughly cleaned before introducing the new soil and young plants.

Figs in Pots.—Unless they are pinched, Figs in pots are apt to make too gross growth, thus depriving the fruit of its due amount of nutriment. The cultivator must, of course, be guided by the vigour of the shoots. Continue to feed moderately till the fruits have attained their full size.

The Hardy Fruit Garden.

Summer Spraying.—Mr. E. Molyneux has forestalled me on this subject by his valuable contribution on page 272 of the issue of May 24, to which I would re-direct the attention of Apple-growers. It is by no means too late to give attention to this matter in Scotland, but no time should be lost.

Pinching.—Fruit trees often exhibit great irregularity of vigour. When this is the case, a judicious system of pinching should be adopted, as by this means not only is much waste of energy saved, but the balance of growth is more or less maintained.

The Vegetable Garden.

Planting Broccoli.—If not already done, the ground should be prepared for this crop and the work of planting proceeded with. Autumn Broccoli may be richly manured, but that for spring use should be planted in only moderately enriched soil, and in as open a situation as possible. Smear the roots with a mixture of soil, cow-manure and sulphur; this will help to ward off the attacks of the maggot.

Celery must on no account be allowed to become dry at the root, and if the foliage is dusted with soot from time to time, the Celery fly will, in all probability, be kept at bay.

Planting Leeks.—The main crop should now be ready for planting out. The Leek requires liberal cultivation and is partial to nitrogenous manures. Length of blanch is the thing to be aimed at, and this can be obtained by drawing drills as for Potatoes. Then plant with a blunt dibble in the bottom of the drills, make deep holes, and only fill in sufficient soil to cover the roots.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER

FLOWER GARDEN.

SPOTS ON DELPHINIUM LEAVES (*G. R. J.*).—The dark spots are minute particles of soot. The foliage appears to have been damaged by water containing poisonous gases in solution, such as is very frequently the case where smelting furnace flames escape into the air.

PYRETHRUMS DAMAGED (*Ascot*).—We suspect an insect is laying its eggs in the stems of the Pyrethrums, but they are in too dried a condition to enable us to say with certainty what the cause may be. Can you watch after dark and send us further specimens, packed so that they will not dry up?

SWEET PEAS FOR EXHIBITION (*S. C.*).—As far as exhibiting is concerned, your Sweet Peas are, with four exceptions, hopelessly out of date, and improvements might easily be made for garden decoration. Since you do not purpose to exhibit until next year, your best plan will be to wait until the end of August and write again. The experience of the present season will enable an up-to-date selection to be given.

VIOLETS GONE WRONG (*M. H. A.*).—The Violets are attacked by the very troublesome fungus Phyllosticta violæ. This fungus has sticky spores, which are liable to be carried on cuttings and to infest frames where the plants are grown, and it is exceedingly difficult to eradicate when once it has got a footing. The best means to adopt is probably to dig up and burn all the affected plants and start afresh, but if it is desired to try to keep them going, spraying with potassium sulphide (1oz. to three gallons of water) will probably be the best thing to do.

DISEASE IN VIOLAS (*Ilford*).—Violas not infrequently suffer from the attack of a fungus belonging to the genus Fusarium, which causes the sudden wilting and death of the plant in the way you describe. Nothing can be done when once a plant is attacked, for the fungus is inside the plant and quite inaccessible. Spraying is useless, but the fungus gains entrance from the soil, and the growth of Violas year after year in the same soil is very liable to bring about the spread of the trouble, as is propagation in old soil. This points the way to prevention, and the use of lime in the soil will also be an aid.

THE GREENHOUSE.

CHRYSANTHEMUM FLY (*Ilford*).—The plants are attacked by the larvæ of the Chrysanthemum fly (Naptomyza lateralis), which burrows into the leaf. The fly is a small, two-winged one, and its visits may be checked, to some extent at least, by spraying the plant, say, in April (at end) with a paraffin emulsion. Where only a few plants are to be dealt with, pinching the affected leaves between the fingers and thumb will kill the larvæ, and it is said that nicotine washes will also effect the same result by acting through the epidermis.

CHRYSANTHEMUMS INFESTED BY THE LEAF-MINING MAGGOT (*W. G.*).—During the past two years the leaf-mining maggot has done much damage to Chrysanthemums in different parts of the country. Some varieties are more liable to attack than others. It is well to carefully examine the leaves weekly from their cutting stage, and crush any maggots found; also to syringe the foliage every fortnight with petroleum emulsion at the rate of a wineglassful to a gallon of water. The oil must be vigorously stirred in the water, and when applying the liquid, forcibly return two syringefuls to the vessel to every syringeful sprayed on the leaves. The best time for the syringing to be done is during the evening. This mixture should be applied to unaffected as well as to affected plants.

DISEASED LEAVES OF CHRYSANTHEMUMS (*B. Worle*).—The leaves which you send for our inspection are badly attacked by "rust." All leaves that are in a similar condition should be removed and burned at once, as they will, if left on the stems, soon shrivel up and spread the disease to sound leaves. Procure from a chemist an ounce of sulphide of potassium. Dissolve half the quantity in rain-water, and then add it to half a gallon of rain-water, syringing the solution on every leaf and portion on both sides. To accomplish this, lay the plants on their sides on a mat, turning each specimen over until all parts are thoroughly wetted. The remaining half an ounce of sulphide should also be dissolved in a similar quantity of water and kept in an earthenware vessel, to be syringed on the plants fortnightly as they stand in the rows. This will tend to keep the leaves free from rust.

ORCHIDS FOR A COOL GREENHOUSE (*Avon*).—To be successful with Orchids, the temperature should not fall below 45° or 50° Fahr., the former figures only being recorded during severe weather, when no harm will accrue if the atmosphere is fairly dry. Unless you can command the above temperatures, we do not advise you to begin growing Orchids. If you can, you might begin with a small quantity of Odonteglossum crispum, as two plants rarely produce flowers exactly alike; also Odontoglossums luteo-purpureum, amabile, triumphans, Pescatorei, nævium, andersonianum, gloriosum, Hallii, wilckeanum, percultum and ardentissimum, while others could be bought in flower; Cypripedium insigne varieties, Cymbidium lowianum, Lycaste Skinneri, Masdevallia, coccinea varieties; Disa Luna, D. sagittalis, Pleurothallis Roezlii, Odontioda Charlesworthi, O. Bradshawiæ, O. lambeauianum, Zygopetalum Mackayi, Epidendrum vitellinum and Cattleya citrina.

HIPPEASTRUMS (*H. C. S.*).—After flowering, Hippeastrums should be encouraged to grow freely, as upon this the future display of blossoms depends. They must be removed into a structure kept warmer than an ordinary greenhouse, the best place being the coolest part of the stove or an intermediate house. It is very necessary to keep them well supplied with water, but an excess must, of course, be avoided. An occasional dose of liquid manure, or one of the many concentrated plant foods now so popular, will be beneficial. With this treatment the plants will grow freely and the bulbs increase in size. By the end of July or thereabouts they will have perfected their growth, or nearly so, when they may be removed to a frame or a greenhouse. As they will have been shaded when in the warmer structure, it will be necessary to continue this for a little time till the tissues of the leaves get firm. Then they may be fully exposed to the sun, in order to ripen the bulbs. As the leaves turn yellow and show signs of going to rest, the water supply must be lessened, and when the bulbs are absolutely dormant it may be discontinued for a time. They should be kept during the winter in a temperature of 50° to 60°, and about the end of January a little water may be given, to be increased as the plants grow.

DWARFED JAPANESE TREES (*E. W. R. P.*).—We do not know of any book dealing with the Japanese method of dwarfing trees, but a good work on the different species of Cactus is "Cactus Culture for Amateurs," by W. Watson, Curator of the Botanic Gardens, Kew. Briefly, the Japanese dwarf trees are obtained by growing them in such a manner that they only receive sufficient nourishment to keep them alive. This practice is followed from the earliest stages, and commences, in the case of many plants raised from seed, by shortening back the tap root and leaving just a few fibres for the plant to obtain its nourishment therefrom. Potting in shallow receptacles and using poor soils are also objects towards the same end. The result is that the plant falls, as it were, into a moribund condition, and though enough vitality is retained for the usual seasons of growth and rest to be followed, yet it is so far stinted as to be quite unable to shake this off and resume its natural style of growth. The Japanese, from their long years of experience, are very skilful in the production of these dwarf trees, and here they are admired by many as curiosities, though the general taste is more in favour of naturally-grown subjects. These dwarf trees, when grown in this country, should be well supplied with water when necessary, but stimulating manures must be avoided.

ROSE GARDEN.

LEAF-CURL (*H. G.*).—The trouble arises from the action of the larvæ of a sawfly, and it is done by them when immature. Spraying with nicotine has been found to kill the larvæ, but it is best to pick off the curled leaves as soon as detected. No doubt the pest is first imported into the garden from soil adhering to roots of Roses that have been previously attacked. It is a troublesome pest, and where very prevalent we should advise replanting in the autumn, taking care to wash off the soil from the roots and remove to quite new soil.

ROSES FAILING (*Lieutenant-Colonel H. F. D.*).—The shoots sent are exceedingly pithy, and should certainly have been cut hard back in spring. Probably, being so pithy, they suffered from winter frosts, which, although not severe, were quite enough to damage such growths. This pithiness of the wood would naturally affect the buds, for they cannot receive their natural food. Whether this state of things is owing to faulty culture we cannot say, but it looks much like a case of overdosing with some chemical manure that encourages this sort of growth instead of a growth of a more solid nature. Too much nitrogenous food will produce this sappy wood, and the frequent applications of insecticides only tend to aggravate matters, for, naturally, the liquid finds its way down to the roots. We should advise hard cutting back of all such wood, and probably the basal eyes will be all right and will quickly start, so that you will have a good autumnal display

FRUIT GARDEN.

LEAVES OF PEAR TREE FOR INSPECTION (*M. M.*).—The symptoms point to the trees being exposed to cold winds. Shelter is an important thing with many Pears, not only for the protection of the foliage, but also as an aid to pollination, since bees do not care to visit flowers in windy weather.

BIG-BUD IN BLACK CURRANTS (*J. A. B.*).—The Black Currants are affected with "big-bud." Pick off and burn all the affected buds in winter, so as to remove as many of the mites that cause the trouble as possible, and spray the plants with Quassia and soft soap three times at fortnightly intervals, beginning at the end of April next. The Beech leaves have been injured either by draught or dry or cold winds.

GOOSEBERRIES GONE WRONG (*R. R. S.*).—We find neither fungus nor insect on the plants to account for the trouble of which you complain. They appear to us to be suffering from lack of sufficient water, and we would suspect they have insufficient roots to supply the demand made by the foliage when the sun becomes hot upon them. They have apparently grown very rapidly. Does the soil ever become water-logged?

GROWTHS ON VINE LEAVES (*Black Hambro'*).—The curious appearance of the Vine foliage is due to the growth of warts upon it, produced by the presence of too much moisture in the air. This checks the normal loss of water from the leaves and brings about a condition of great pressure in certain of the cells, resulting in their greatly increased growth and the formation of warts. They are signs of improper conditions, and point the way to a remedy.

BARK OF APPLE TREES STRIPPED BY RABBITS OR HARES (*J. M. C.*).—If the bark has been completely stripped from round the stems of the trees, nothing you can do will avail to make them useful and satisfactory trees afterwards, although they may perhaps linger on for some years as wrecks. But if there is a part of the bark remaining, say, up one or two sides, they will have a better chance of living, as new bark in time will take the place of the old. The wisest thing to do in the case of badly-stripped trees like yours is to grub them up and replant in autumn with healthy trees.

RASPBERRIES AND GOOSEBERRIES DISEASED (*M. H.*).—The Raspberries are attacked by the fungus Hendersonia rubi, as you may see by the pale dead spots on the canes covered with the tiny black fruit of the fungus. All affected canes should be removed and burned, and the remaining plants sprayed with Bordeaux mixture. The Gooseberries are affected with die black, a disease due to a fungus which does not fruit until it has killed a branch. All dead branches should be immediately removed and burned. Spraying in this case will be of little use. The yellow-flowered annual is Limnanthes Douglasii, a good bee flower

MELONS CRACKING AND BECOMING SPOTTED (*A. W.*).—The Melon is one of the easiest of all fruits to grow, provided the grower has some sound knowledge and experience to guide him in the work; but once the fruit goes wrong through faulty treatment, it seldom does any good afterwards. The cause of cracking in Melons is too much water applied to the roots and too humid and close an atmosphere. Give more air and keep the soil moderately dry for a time, and notice the result. If there is no improvement, it will be better to pull up the plants and start again with fresh ones. If you decide to do this and will let us know, we will try to help you with the new crop by giving a few details as to culture.

CUSTARD APPLE SEED (*T. J. L.*).—The Custard Apple is the fruit of Anona squamosa. It makes a bush-like tree, attaining to a height of about fifteen feet. The tree will take at least three years to grow from seed before any fruit may be expected. When the fruit is ripe it is fleshy, the pulp being yellow and so soft that it is difficult to handle without bruising. The flavour of the fruit has been likened to that of Raspberries and cream. In tropical countries it is much appreciated and consumed. To grow it to perfection in this country it would require a well-heated greenhouse to itself; but the fruit is not particularly cared for here, and certainly not deemed of sufficient importance to have a glasshouse devoted to its growth. The way to grow the seedlings is to pot them and grow them on in heat during the summer, with cooler treatment in winter. The tree is well branched and clothed with leathery, oblong leaves, in the axils of which are borne in spring greenish, fleshy flowers about one inch across. The soil that suits it well is the same as you would use for growing Peach trees in pots.

ESPALIER PEAR TREES NOT BEARING (*X. M. D.*).—The varieties are fairly consistent bearers, and therefore the fault is not to be looked for in the varieties. The Pears (or most of the varieties) are strong-growing trees, and it often happens that if means are not taken in good time to moderate such strong growth, it will so continue one year after another, the tree remaining practically barren all the time. In all such cases root-pruning should be resorted to. If properly carried out it can do no harm, and in ninety-nine cases out of a hundred it proves effective in bringing the trees into a fruitful condition. With reference to the fruit of your Magnate Pear tree shrivelling and dropping, this is most unusual, for this variety is one of the most satisfactory croppers we have. Can it be that the roots are dry at any time? Give the tree a real good soaking now, and then a mulch of rotten manure on the surface 3 inches deep. Water it again a fortnight hence over the manure, and once more before the fruit shows signs of ripening. It is a good plan to give such fruit trees a thorough irrigation of manure-water in

the winter as soon as the leaves have fallen. It fertilises the soil and nourishes the roots.

SCAB ON YOUNG PEACH FRUIT (*J. R. R.*).—Judging by the sample of foliage sent, your tree is in a feeble state of health, but the cause of the injury to the fruit is "scalding" (in garden parlance). This is brought about by bright gleams of sunshine shining on the fruit while it is damp from late spraying, and insufficient ventilation. Do not try to force the tree's growth, but let it come as naturally and gradually as possible, giving plenty of air in fine weather, day and night, but, of course, in cold weather not so much. In this way we hope the fruit which is left and which is healthy may develop and ripen all right, but there is no hope for that which is diseased like the sample. Syringe the trees in the afternoon of fine days, about 4 p.m., but not in the morning. Water with care. Do not let the soil be waterlogged or too dry at any time. The best way to bring your tree back to health will be by lifting it bodily and replanting at the end of October in good, fairly heavy maiden turfy loam, adding a gallon of lime and a quart of bone-meal to each barrow-load of the loam. Tread the soil firmly over the roots when planting. This replanting, if carefully done, need not prevent the tree from bearing next year. Let the points of all the roots be slightly shortened at the time of replanting.

TO GROW MELONS IN A FRAME (*E. C.*).—The Melon should be planted and grown very much like a Cucumber, the chief difference being that heavier loam should be used and no manure mixed with the soil. The soil, after planting, should also be pressed down more firmly round the roots than is advisable for the Cucumber. Two plants should be planted together in the centre of a one-light frame (10 inches from the glass). When each young plant has formed a stem, say, of 4 inches in height, let the top of the stem be stopped by pinching off the top with the finger and thumb. The result of doing this will be that two new shoots will emit from the stem lower down. These will form the two main branches of the plants, and be the ones which will bear fruit. These branches will trail on the surface of the soil. As soon as they have attained a length of 15 inches, let the extreme points of each be stopped, as the young shoot was stopped before. The result of this stopping will be that two or three other shoots will issue out of the side of these branches. These are called lateral shoots, and these are the shoots which will bear the fruit. By the time these side shoots are 7 inches long, each one will show a female blossom. This is distinguished from the male blossom by having a swelling at the bottom, and is easily known. As soon as you can secure two or three of these female blossoms expanded on these laterals at the same time, then is the time to fertilise the flowers with the pollen of the male blossom, this being applied to the stigma (the centre column of the female blossom). This should be done at midday, when the pollen and the flowers are quite dry.

KITCHEN GARDEN.

WORMS ATTACKING VEGETABLES (*E. R.*).—The worms are mostly white worms which are allied to earthworms, but, unlike the latter, frequently cause considerable damage to plant roots. We think a dressing of lime to the soil is called for; but meantime some good may be done by watering the plants with lime-water.

ASPARAGUS BITTER (*An Outsider*).—The cause of the bitterness, we think, is undoubtedly due to injury to the young growth by frost. While there is danger of frost you should inspect your beds every morning and cut off all the grass which is fit to cut, and that which is too small to cut you should cover over with some soil from the surface of the bed in order to protect it.

MISCELLANEOUS.

CHANGING THE COLOUR OF FLOWERS (*A. H.*).—Many aniline dyes may be used for giving flowers unnatural colours, either by dipping the flowers completely in or by allowing them to soak up the dye.

HARD WATER (*W. S.*).—Your water is probably hard because of the amount of chalk it holds in solution. If this is so, it may be materially softened by boiling, or by the addition of a small quantity of quicklime to the tank in which it is kept before use in the house.

ROSES AND IRISES ATTACKED BY A FUNGUS (*J. S.*).—The Roses and the Irises are attacked by the same fungus, Botrytis cinerea. This fungus usually attacks plants that are rather unripe in their growth, or that have been checked by a frost. Extra liberal manuring or growing the plants in rich soil, which encourages sappy growth, lays the plants open to attack. All diseased parts should be removed and burned.

INJURY TO APPLE BLOSSOM (*Apple*).—The Apple flowers are not attacked by the Apple-blossom weevil, but probably by the Apple Psylla. This pest lays its eggs in autumn on the young twigs, and it is very likely to be carried from one place to another on the trees in this form. No Psyllas were present when the clusters reached us, but the appearance of the dead flowers suggested that attack.

BOTTLING FRUITS AND VEGETABLES (*W. H. C.*).—All vegetables and fruits should be gathered dry. Peas, young and freshly gathered, should be shelled and thrown into boiling water with a little suet for five minutes. Fill the bottles with Peas, filling with the water they were boiled in. Put in the steriliser and gradually heat to boiling point. Screw the cap down tightly when taken out. Treat Asparagus in the same manner. Cut the stalks to suit the length of the bottle. Strawberries should be rather under-ripe and packed closely in the bottles. Fill, when cold, with syrup made by dissolving a pound of sugar in two quarts of water. Sterilise as advised. Gooseberries may be treated with plain water or syrup, preferably the latter. Use the fruit young.

PONDWEED (*H. S. B.*).—You can arrive at the approximate cubical contents of your pond by taking the average depth of water in feet and multiplying it with the square of the surface. As the pond varies in depth, you will find a difficulty in getting the exact cubical contents of water; but as you can use copper sulphate with safety at any strength between 1 in 750,000 and 1 in 1,000,000, there is a wide margin for any inaccuracy. Copper sulphate is even effective in killing scum at less strength than 1 in 1,000,000, though it is advisable to keep to that strength, or as near as possible.

INJURY TO LEAVES (*S. C. R.*).—Your soil is probably insufficiently drained and cold in spring. This would fully account for the yellow colour of the rambler Rose shoots. Attention should be paid to drainage and to lightening the soil. If you can make it a little darker by the addition of soot, it would probably help matters. The Plum is attacked by silver-leaf. It would be well to cut out the affected parts completely and burn them. Affected branches very rarely recover and scarcely ever fruit, while the fungus which is the cause of the trouble spreads from diseased branches after they are dead.

NAMES OF PLANTS.—*R. K. H.*—Sitka Spruce (Picea sitchensis, sometimes called Picea Menziesii).——*M. R. P.*—Collinsia bicolor. —— *Parnell, Bournemouth.* — Lonicera involucrata.——*G. E. C.*—Pancratium illyricum.——*The Lady Kennedy.*—Pyrus Aria (White Beam).——*R. M.*—1, Red flower, Crinodendron hookerianum syn. Tricuspidaria hexapetala; 2, Rhamous catharticus.——*J. C., Kinlochleven.*—1, Galium saxatile; 2, Trientalis europæa; 3, Pedicularis sylvatica; 4, Lysimachia nemorum; 5, Geum rivale; 6, Euphorbia species, too scrappy to identify.——*G. B., N. Wales.*—1, Ajuga reptans; 2, Helianthemum vulgare; 3, Polygala vulgaris; 4, Coronilla cappadocica; 5, Forsythia species; 6, Symphoricarpus racemosus.——*"Jim."*—1, Davallia mooreana; 2, Adiantium formosum; 3, Polypodium aureum; 4, Davallia elegans variety; 5, Gymnogramme wettenhalliana; 6, Codiæum variegatum variety; 7, Gymnogramme chrysophylla; 8, Phyllanthus nivosus: 9, Acalypha macrostachys (musiaca); 10, Dracæna terminalis variety; 11, Davallia elegans; 12, Gymnogramme pulchella.

BOOKS.

The Genus Iris.*—"A great book, a great evil," said the ancient Greek, and the little that I can detect of evil in this fine addition to the library of the botanist and the gardener is chiefly connected with its magnitude. It refuses to enter a shelf that comfortably accommodates such fine folios as Andrews' "Heaths" and a tall copy of the 1768 edition of Miller's "Gardeners' Dictionary," being a head taller than either. Even where extra head space has been prepared for the "Hortus Elthamensis," the width of these Iris portraits is such that the door cannot shut upon them. The magnitude of price exists only so long as the book is regarded from its outside. Once open its pages and realise the labour, research and voyages necessary for its completeness and original authority, taste the delight of its exquisitely delicate and accurate illustrations, and you are like the swimmer who, braver than the rest, first plunges into the stream and instantly calls to the others looking at the apparently cold water, "Come on; it's just lovely." The ample pages when open provide the reader with the possibility of good clear type and division under headings, so well spaced that a glance is sufficient to give you the one you want. Thus, after the recognised name of each species we get references to its published descriptions, and should it be figured as well, an asterisk points it out. Then in order follow a list of synonyms, distribution, Latin diagnosis, description in English and a final division for observations. These are in most cases delightful records of the author's personal experience in visits to the plants' native homes, or efforts, successful or otherwise, to obtain living material; but especially noteworthy and useful are the many thorough and practical notes on cultivation.

These are, perhaps, one of the most marked features of this book. It is so rare to find a botanist who can produce such a systematic monograph and also has the true gardener's enthusiasm for the beauty of the plant, and the patience and perseverance that lead to the discovery of the individual idiosyncrasies of the wayward when under cultivation. As an instance of this I may quote the following: "There appear to be two main forms of I. ruthenica; one has almost rigid leaves and flowers freely, while the other has flimsy, largely prostrate, foliage. It flowers only exceedingly rarely—at any rate in the dry hot soil of Surrey, although in moister and richer conditions, it is said to flower well and even to produce a second crop of flowers in the autumn." Such a simple rule should banish the flaccid-leaved, barren patches from all but the gardens of the students of forms. It would be easy to instance further rich fruits gathered from the author's personal observations of his plants, but space will admit of but three. By raising seedlings he has proved that many forms that breed true from seed should be regarded as Mendelian recessives, and not as subspecies. He instances the white forms of I. tectorum, I. sibirica and I. orientalis, the crimson I. versicolor kermesina, and that form of I. Pseudacorus in which the usual brown markings are absent.

The second discovery is so interesting and useful that I give the author's own words: "Nature has provided us with one infallible sign, which will show us whether an Iris is a native of a dry or a wet soil. This will be seen if leaves of I. Pseudacorus or I. versicolor are held up to the light side by side with a leaf of a Pogoniris, for instance, of I. germanica. The latter will appear of a uniform green, but the former will show a number of minute blackish spots, which on microscopical examination prove to be due to the fact that at these points the vertical channels in the tissue of the leaves are blocked by growths of apparently the same structure as that which surrounds the passages. The increased thickness of the structure at these points produces the appearance of the black spots."

As another instance of the value of this book to the cultivator of Irises, we may take the notes on the Californian group, so beautiful, yet so rarely seen. The author tells us two causes prevent their generally successful cultivation—soil that is strong in lime, and the paucity of their root-fibres, which makes transplantation uncertain—and he gives most useful hints, drawn from experience, as to the methods by which he has successfully raised them from seed and established them in permanent quarters. The careful study of this book would greatly enlarge the views and collections of Iris growers. Too many good gardens contain few varieties and species other than the florists' forms of bearded Irises so often erroneously classed as "German" Irises, whose main display is confined to late May and early June, leaving out those that would furnish blooms from the late autumn (I always *expect* and often *get* I. unguicularis blooms in the first week of October) to the middle of July, when the Japanese Irises close the normal Iris season. The Iris has been aptly termed the "poor man's Orchid," but no one who gardens in the open air should neglect this fine plant, and henceforward none should be content with less than an eight months' succession of Iris flowers, who can give space and attention to them and will put in practice the good advice so richly stored in this book, which is beyond doubt a great one for the practical gardener.

* "The Genus Iris," by W. R. Dykes; price 6 guineas net. Cambridge University Press.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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NOTES OF THE WEEK.

Next Year's Daffodil Show in London.—April 21 and 22 are the dates fixed by the Council of the Royal Horticultural Society for their Daffodil show next year. We understand that the schedule of the show will be ready shortly.

Meconopsis paniculata.—Like M. Wallichii, which in general appearance it much resembles, this plant is worth growing for its foliage alone; but when it opens its pale lemon cup-shaped flowers in June or early July it is doubly captivating. It is not too late to sow seed of it in a cool frame, where the plants should remain till spring.

Forthcoming Saxifrage Conference.—The President and Council of the Royal Horticultural Society have decided to hold a Conference on Saxifrages in the spring or early summer of 1915. Fuller particulars will be issued in due course, but notice is given thus early in order that those interested in this family of plants may have time to prepare material. The Council will be pleased to hear from any willing to contribute a paper at the Conference or to take part in any way.

A Beautiful New Garden Rose.—One of the best garden Roses of recent introduction that we know is Lady Alice Stanley, a Hybrid Tea that emanated from the Emerald Isle in 1909. This Rose makes a fine spreading bush, and its glorious solitary flowers are produced on stout, erect stems. The blooms are of silvery pink colour, the reverse of the petals being deep, glowing rose. This combination is particularly charming. The flowers are large, fragrant, and last in good condition for a long time after they are fully expanded, of which stage they remind us of refined Pæonies.

A Good Early Pea.—One of the best early Peas that we have ever grown is Early Morn, a wrinkle-seeded variety of splendid quality, with excellent cropping powers. Sown in the open on March 8, the plants gave a splendid lot of pods for picking on the 21st inst. This Pea has robust haulm of about three feet in height, and the pods are long and almost straight, the average number of Peas in each being nine. When cooked these are of a beautiful green tint, and the quality is all that one could wish. It is a Pea to note for sowing next year.

A Beautiful Rock Rose.—Cistus Loretii is one of the hardiest and best of the numerous Rock Roses, and it is a plant to include among subjects for dry, sunny banks. Of hybrid origin, it claims as parents two showy species in C. ladaniferus and C. monspeliensis. Mature plants attain a height of 4 feet with a similar diameter, and are prominent throughout the year by reason of their dark green leaves. It is, however, during early June that they are most attractive, for at that time they are covered with showy flowers. Each blossom is about two and a-half inches across, white, with a rich reddish blotch at the base of each petal. Cuttings of young shoots root readily during summer if placed in sandy soil in a close frame, while the plant thrives in quite poor soil; in fact, it is a mistake to make the ground very rich for this or any other Cistus.

Single Roses Flowering Well.—The freedom with which the Dog Rose (Rosa canina) is flowering in the hedgerows of our country lanes is truly wonderful. We recently came across bushes of this Rose smothered with bloom on a lakeside with Iris sibirica in full flower on either side of it. The association of these plants and the colours produced were pleasing in the extreme. The Burnet or Scotch Rose (R. spinosissima) is likewise flowering with remarkable freedom, while the less hardy Cherokee Rose (R. sinica Anemone) is flowering in some gardens better than it has ever been known to before.

The Prophet Flower.—This Oriental plant is often met with under the name of Arnebia echioides, although it is correctly known as Macrotomia echioides. It belongs to the Natural Order Boraginaceæ, but it is little like a Borage. The peculiarity of the plant is seen in the large, bright yellow flowers, which when first open have a purple maroon blotch at the base of each of the five petals. The remarkable thing is that the blotches, which are very conspicuous in the young flower, disappear as the flower matures. This is a subject worthy of a position in the rock garden, for it is both attractive and interesting. A sunny position and a sandy loamy soil suit it admirably.

Creosote Fumes and Plants.—Last week a correspondent wrote to say that he had recently had a new greenhouse built, and that the wooden staging had been treated with creosote. Tomato plants which had been placed in the house had suffered considerably, the leaves having curled up in an alarming manner. Apparently it is not generally known that the fumes of creosote, which are very penetrating, are injurious to plant-life, particularly in the confined atmosphere of a greenhouse. Wood that has been recently treated with this preservative ought to be kept away from plants of all kinds, though after several months its injurious properties appear to pass away.

Anchusa italica Dropmore Variety.—One of the most conspicuous herbaceous plants in flower at Kew early in June was this beautiful variety of the Italian Alkanet. It was planted about the grounds in large groups in several situations, notably near the T Range and Palm House, and beside the Lake in the Arboretum. Possibly it was seen to the best advantage in the latter place, for, looking across the lake, in addition to the mass of blue on the bank there was the colour reflected in the water with a background of dark foliage trees. It is quite an easy plant to cultivate, and a stock of plants may be raised quickly by making cuttings of the stronger roots during spring or summer. Good loamy soil provides a suitable rooting medium, and a surface-dressing of manure in spring serves to keep the plants in good health.

CORRESPONDENCE.

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

Birds and Fruit-Nets.—Will you allow me to suggest to the bird-lovers among your readers that during the summer season they should make a point of periodically visiting their fruit-nets? and so ensure against such of our little songsters who may have been caught there dying a slow death by hunger and thirst. It is quite a common thing to find the dead body of a bird entangled in the meshes of a Strawberry-net, and one does not like to think of the lingering death by which the little thief has atoned for his very natural greediness.—Z.

Gloxinias for a Cool Greenhouse.—The writer of a note on this subject in "Notes of the Week," issue June 14, is quite right when he says that the tendency is to regard these plants as stove subjects. One of the best batches of plants I ever saw was grown in a cold frame during the summer months, in fine weather being fully exposed, as the lights were removed, and only taken to a cool greenhouse as the flowers developed. It was an experiment growing the plants so, occasioned by want of room, but quite a successful one. All the flower-stems were strong and upright, and the leaves thick and leathery, whereas many flowers grown on plants in hot stoves have to be supported. —G. G.

Musk Without Scent.—I read in a note in THE GARDEN of last week that you notice how scentless Musk has become. I believe I am right in saying that in England it has had no scent for the last five years or so. I have noticed this lack of scent in Devon, Hants, Worcestershire and various Midland Counties, and have been told of it by many friends living elsewhere. It occurred to me that perhaps the plant has acquired the habit of self-fertilisation. Should this be the case, its protoplasts would naturally leave off producing a volatile oil to attract insects. For the last three years I have watched Musk plants with interest in the counties I have named, and have never seen them visited by insects. Can this be the solution?—VICTORIA SLADE.

The Long-Spurred Columbines.—I can very fully bear out all that is advanced in favour of these plants in "Notes of the Week," issue June 14. For more than ten years I had charge of a garden in which the Columbine was a favourite plant, and during that period there was a large border, about ten feet wide and sixty feet long, filled with them, besides clumps growing in the herbaceous borders. For many years previous to my charge the Columbines had been growing in the same border. I never dug up the clumps nor the border soil, all the attention given being confined to an annual surface mulch of rotted manure and loam in equal quantities, mixed. The original soil was of too light a nature to admit of the addition of leaf-soil. Every year seedlings appeared and, in due course, produced flowers of very beautiful colours. Perhaps the plants deserved better treatment, but they did remarkably well. The flowers were charming in vases.—G. G.

The Lackey Moth Caterpillar.—If one looks at the Hawthorn hedges about May or June one cannot fail to notice cobweb-like structures which cover many of the shoots, and also that these branches are practically destitute of leaves. The smaller of these tents belong to the caterpillar of the ermine moth, while the larger kinds belong to that of the lackey moth. Both these, especially the latter, are also troublesome as regards Apple, Plum and other fruit trees. The illustration shows a typical, well-developed tent of the caterpillar of the lackey moth, taken from an Apple tree. It was about nine inches in length and remarkably strong. On studying the life-history of this pest we find that the moth lays its eggs on the young shoots of the trees in autumn in rings, and the number of eggs varies from forty to two hundred. They are greyish in colour, and are rather difficult to discern against the brown of the bark unless the tree is small. These eggs withstand all the rigours of winter, and hatch out towards the end of April. The young caterpillars are black with two yellow lines down the back, and we notice that they soon commence spinning a web so as to enclose a few leaves, on which they feed. As they grow, so the tent grows, and when they are about half

A TENT OF LACKEY MOTH CATERPILLARS. THESE DO CONSIDERABLE DAMAGE TO APPLE AND PLUM TREES.

an inch long they begin to spread about the tree, devouring the leaves, making a point, however, of always returning to the tent in the evening. On dull and wet days they remain in the tent. The full-grown caterpillar is about one and a-half inches long, and is rather gaudily coloured, having a ground colour of bluish grey with red and yellow stripes. About the middle of June the chrysalis is formed inside a silky cocoon, the outside of which is covered with a yellow powder. This cocoon is either suspended from a leaf or enclosed between two leaves. The moth usually appears in July and August and deposits its eggs, and so the trouble goes on. From this brief study of the life-history we see that the best means of destroying them (always, of course, presuming that it is in the majority of cases impossible to see the eggs) is to remove the tents in the evening or on a showery day, as at these times one could be practically certain that all the caterpillars would be caught.—H. BUCKTON, *Donington, near Spalding.*

The Dwarf Mock Oranges.—I was pleased to see the note on these charming shrubs on page 399 of last week's issue. I grow them near the doors and windows of the house, where the large kinds would take up too much room, and their fragrance is delightful. The hint to cut out old wood after flowering is a useful one that I hope to act upon. —A. B. ESSEX.

A Glorious Garden Pink.—Referring to your paragraph in "Notes of the Week" in last week's issue of THE GARDEN regarding Pink Gloriosa, last year I successfully layered about five hundred of this, as you truly state, glorious Pink; but my experience is that the plant undoubtedly requires protection in the winter. My plants were duly planted out on a warm border, and had last winter been a severe one, I should certainly have lost the whole of my stock. At the present time the plants are just recovering, and have flowered fairly freely, but mostly with very short stems. I may state they are growing in the neighbourhood of Richmond. After layering this season I intend planting them out in cold frames for the winter, and then plant out in early spring. I should be glad to hear other growers' experiences and opinions on this lovely new plant.—C. A. G. [The plants we have are growing in a warm border by the house, but facing east. This is in Essex. They have withstood two winters without protection.—ED.]

Silver-Leaf Disease in Apple Trees.—I have noticed the increase of this disease in fruit trees more than ever this year. Is it not a fact, though, that this is so following a wet season? The disease, unfortunately, is not now confined to Plum trees, but is attacking Apple trees also. Last year I found two trees of Norfolk Beauty which had been grafted on to Warner's King five years previously, affected. Extra strong growth followed the grafting. The cause of this disease attacking these particular trees is very puzzling, as there are many more of the same variety adjoining which are at present quite healthy, and no Plum trees anywhere near. I notice, too, that more Plum trees are attacked this year than is common. The variety Victoria, as is generally known, is the one that suffers the most from this disease. In one large fruit garden not far away it is no uncommon thing for the proprietor to be compelled to replant as many as 200 trees of Victoria alone in one season owing to silver-leaf disease. This is a serious matter. In a cottager's garden near here I note a large tree of Plum Belle de Louvain, which bore a huge crop last year, is this year showing signs of silver-leaf disease. Has the weight of fruit borne on the trees, followed by a wet autumn in which maturation cannot be so perfect, anything to do with the progress and increase of the disease? In connection with the disease of the two Apple trees alluded to previously, I have treated one of the trees with sulphate of iron in the hope of arresting the disease, and also ridding the trees entirely of it. We are continually being told that there is no cure for silver-leaf; only dig up and burn the trees! From the appearance of the Apple tree thus treated I am in hopes of saving it, and if this is an assured fact, why should not the same happen to Plum trees so affected? I herewith send portions of the two trees, one showing the effect of treatment as compared with the untreated tree.—E. MOLYNEUX, *Swanmore Park, Hants.* [The point raised by our correspondent is a most interesting one. The Apple shoots from the treated tree are robust and only show slight traces of silver-leaf, while those from the untreated tree are weak and badly infested.—ED.]

Worms on Lawns.—I was much interested in Mr. Engleheart's comments *re* worms in your issue of June 7. I am compelled to say that after a long and close acquaintance with the effect of worms on the soil generally, and on lawns especially, I was not a little dismayed to read the Editor's note at the foot. I presume the good influence of worms on cultivated soil is generally acknowledged; it certainly ought to be with reference to lawns. England, I believe, the world over is noted for her garden lawns, and obviously this applies more to lawns made anything from fifty to two hundred years ago than to those of the last ten years. I suggest that the discerning care which made these fine examples did not include methods for the destruction of the worms; also that the lawn men to whom we are indebted for them worked in consonance with their coadjutors, the worms, and not for their destruction. This, then, is what should be practised in these days where a fine lawn is desired, even for games. It was very gratifying to read in Mr. Engleheart's note that "it is probably an impossibility to really exterminate the worms on a grass plot of any size." Would that it were on the smallest!—E. J. Platt.

Blue-Flowered Hydrangeas.—A query that crops up with uniform regularity is how to induce Hydrangeas to give blue flowers. Various suggestions as to the cause thereof have been made, it being usually attributed to the presence of iron in the soil. By watering with alum water, or by mixing iron in some shape or other with the potting compost, good results are sometimes obtained, but failures are by no means infrequent. There are, however, two preparations now on the market, bearing the "bluey" names of Azure and Cyanol, that can be relied upon to produce the desired blue tint. Azure is brought out by Messrs. William Cutbush and Son of Highgate, and their exhibit of blue Hydrangeas at the Chelsea Show stood out as an undoubted proof of its efficacy. At the same time Messrs. Cutbush said that some varieties acquire this blue tint in a more pronounced manner than others. Naturally, it is of a bright rose colour, but readily changes to blue. The second to mention, Cyanol, is, I believe, a Continental preparation, but which can be obtained from some of the horticultural sundriesmen. The users of this preparation are reminded that water and soil must be free from chalk, that rain-water is preferable and that no artificial manure must be applied.—H. P.

FORTHCOMING EVENTS.

July 1.—Royal Horticultural Society's Summer Show at Holland House (three days). Rose Shows at Sutton and Epsom. Scottish Horticultural Association's Meeting. Royal Agricultural Society of England Show at Bristol (five days).

July 2.—Hanley Floral Fête (two days). Flower Shows at Penarth, King's Lynn, Gosport, Alverstoke and Colchester.

July 3.—Flower Show at Ipswich.

July 4.—National Rose Society's Show at Regent's Park.

July 5.—Flower Show at Thornton Heath. Société Française d'Horticulture de Londres Meeting.

THE ROSE GARDEN.

SEASONABLE NOTES ON ROSES.

As I write we have been experiencing another spell of weather that is quite unsuitable to Roses. The warmer showers of a few days previous were very useful in cleansing young growths from the very serious attack of insect foes which came on during the prevalence of east and north-easterly winds; but now (June 10) it is quite cold, and the growths are being battered and bruised by a half gale from the south-west. On the mornings of the 8th and 9th inst. we had quite sharp white frosts here—East Sussex—and not a few of the more tender varieties already show the effects of these, so that, taken altogether, our prospects are not so rosy as a short time back. The sudden and extreme changes have had a disastrous effect upon many wall Roses here (Uckfield) that were rapidly coming into full flower and were promising. During the spell of heat in the first week of the month great help was afforded our wall Roses by the free use of the syringe and water minus any insecticide. This was applied late in the afternoon when the sun had lost its burning power, and again a little before sunset. Where this slight trouble was taken, the difference was remarkable, and I can recommend it during spells of warm weather. It acts as a cleanser, and is also a grand preventive of severe attacks of black thrip and red spider, so injurious to Roses when upon an extra dry wall.

The winds must have played havoc with maiden Roses not properly secured, more especially those upon standards. Early measures in this direction give us a number of sticks that are very useful, even before the young growths are sufficiently long to be tied the second time. Our own were earthed up early, and the varieties more susceptible to breaking out struck first. Some few Roses seem to break out at the very least pressure, while others, making a better union with the stock from the first, will resist quite a strong wind if earthed up and headed.

Next month should find us busy with budding, and a little preparation of the stocks is advisable. For example, it will be found a great help in lifting the bark of dwarf stocks if that portion of the stem is moist and soft. If some of the surrounding soil is drawn up to the stocks, similar to the earthing up of Potatoes, we shall find the bark in a desirable condition when the earth is removed just previous to inserting the bud. Upon standard Briars also the number of shoulder shoots should be limited to two or three, leaving these at the most desirable height. If these breaks can be left at a triangle, or almost opposite one another in the case of only two, a much better head of Rose growth is likely to be secured. The full operation of budding may occupy some later notes at a more seasonable time; but I may say that any interference with growth at the time of budding is apt to check the flow of sap and so hinder a quick junction. A. P.

A GOOD CRIMSON ROSE.

During the present season I have had some remarkably fine blooms of Commander Jules Gravereaux, a Rose that has escaped the notice of a good many readers, for I do not remember seeing it mentioned. Its fine glowing scarlet-crimson blooms make a splendid show, and, unlike many of the Hybrid Perpetual Roses, its growth is nicely spreading. The flowers are rather semi-double; certainly they are not at all full, and the huge petals are curiously indented at the edges, which remind one of a big almost single Pæony. This Rose would make a fine bedder, as every shoot will bloom. It will throw up very rigid growths about three feet in height, and these are crowned with flower-buds. The fragrance is very sweet, just of the old Rose scent we admire so much. It is rather strange that this is so, seeing that the Rose was raised from Frau Karl Druschki crossed with Cramoisie Supérieure, both scentless kinds; but the writer has a seedling of Frau Karl Druschki deliciously sweet. In this case a fragrant Hybrid Tea was employed as pollen parent.

I am certain we shall soon have quite a number of Frau Karl Druschki seedlings, and if they are as beautiful as Commander Jules Gravereaux and Nathalie Bottner, the so-called yellow Frau Karl Druschki, they will be most welcome. I had this latter growing close by the new Alexander Hill Gray, and some visitors thought Nathalie Bottner the more beautiful of the two, as the flowers were produced on erect growths and were of beautiful shape and fulness, reminding one somewhat of a very fine Mme. Hoste. Danecroft.

A BEAUTIFUL NEW MOCK ORANGE, PHILADELPHUS NORMA. (*About one-half natural size.* *See page* 328.)

CULTURAL HINTS ON NEW AND RARE PLANTS.

(*Continued from page* 288.)

HARDY PLANTS.

Primula littoniana.—Perhaps of all the marvels of the modern Primula world this is the greatest—unique in design and in effect. Much of the latter is due to the glowing red colour of the bracts and calyces, in contrast with the purplish colour of the flowers. The latter are closely arranged in cylindrical spikes of 2 feet high, and from the earliest days of their expanding are in sharp contrast with the rich red of the tips of the spikes. This remarkable plant, from the mountains of Western China, revels in rich, moist loam and partial shade. Easily raised from seeds. Sow when ripe.

Saxifraga Borisii.—Among the more recent introductions, this handsome yellow-flowered hybrid—said to have originated from the crossing of S. marginata with S. Ferdinandi-Coburgi—is full of promise. The habit of growth and fine vigour are strongly reminiscent of S. marginata, the glistening yellow flowers on 3-inch-high peduncles (stems) much larger than in either parent. The peduncles are usually three to five flowered. The plant delights in chalky loam and comparatively dry, rather sheltered places in the rock garden. Increase by careful division immediately after flowering.

Saxifraga decipiens bathoniensis.—One of the best, perhaps *the* best, of the red Mossy Saxifrages. There are some who have a strong liking for S. Clibranii, though the flowers of the first named are larger. In cool places not far removed from thin shade, the crimson-red colour is longer retained. Increase by division after flowering. Seedlings come up quite freely around the established plants. All these red-flowered sorts make capital plants for edgings.

Primula cockburniana.—The glorious orange scarlet of the flowers of this plant is unique, and in a plant of greater freedom of flowering and finer stature would probably have become the most popular of its race. As it is, it is indispensable for its colour. It is of easy culture in moist peat and loam, and seeds abundantly. Seedlings should be raised freely, therefore, and planted in sheltered groups in the rock garden.

TREES AND SHRUBS.

Salix magnifica.—This is perhaps the most remarkable of all Willows, for it bears handsome oval leaves up to 8 inches in length and 4 inches across, the male catkins being over six inches long and the female catkins nearly a foot in length. A native of China, it has recently been introduced to this country *viâ*. the Arnold Arboretum. Like other Willows, it thrives in moist ground, but it is probable that it will require to be grown in cultivated ground if the best results are to be obtained.

A ROCK GARDEN OF OLD-WORLD FLOWERS (*See page* 326.)

Styrax Wilsonii is a worthy addition to a genus containing a number of choice species. Forming a slender-branched bush, it bears drooping white flowers from the leaf-axils during June. Like the other species, it thrives in well-drained, loamy soil, but appreciates a little peat about the roots at planting-time. A moderately open position is desirable. Propagation may be effected by seeds or layers.

Fothergilla major, a decorative shrub allied to the Hamamelis, was introduced from America about a dozen years ago. Of fairly vigorous, upright growth, it bears large, oval leaves, which turn yellow previous to falling, and conspicuous, upright inflorescences of white flowers. The flowering-time is May. The best rooting medium is light loam moderately free from lime, into which a little peat has been dug. Moist ground and a little shade are preferable to a dry and sunny position. Cuttings of half-ripe wood root readily if inserted in sandy soil in a close case during July.

Lonicera tragophylla is a climbing Honeysuckle from China, remarkable for its long, tubular, golden flowers, which sometimes exceed four inches in length. It is adapted for planting against a trellis or summer-house, but appears to be more suitable for a moderately damp climate than for a dry situation. Like other Honeysuckles, it requires good loamy soil and may be increased by means of cuttings.

Philadelphus purpureo-maculatus. — About half-a-dozen years have elapsed since this plant, which is of hybrid origin, made its appearance. It belongs to the dwarf-growing group of the family, of which the most familiar example is P. Lemoinei. Purpureo-maculatus differs from other kinds by reason of its white, fragrant flowers having a conspicuous purple blotch at the base of each petal. It must be given good loamy soil, and after the flowers have faded all the old flowering wood should be cut away, leaving as many vigorous young shoots as possible. Cuttings of young shoots root well in July.

Hydrangea Sargentii created considerable curiosity at the recent Chelsea Show, and an illustration of the plant appeared in the Exhibition Number of The Garden. Its chief attraction is centred in its large and decorative leaves, which are sometimes a foot long and 8 inches or more wide. The flowers are in large heads, a considerable number of small, fertile blossoms being accompanied by a few large, sterile blooms. From what can be ascertained as to its requirements up to the present, it appears more suitable for the South-Western Counties than for general cultivation.

THE FLOWER GARDEN.

PRIMULA COCKBURNIANA AND ITS HYBRIDS.

THERE has been an interesting discussion in The Garden as to whether this good Primula is biennial or perennial; but with a plant that seeds so freely as P. cockburniana I think this point is not so important as some would have us believe. The most important point, however, is the part it has played and will play in the production of highly-coloured hybrids, and it would be useful to many readers of The Garden if others would kindly write and say what they have attempted and the results obtained. It crosses freely with P. pulverulenta, which gave P. Unique and Lissadell Hybrid, the former, according to the laws of nomenclature, being the proper name. Now we have another fine acquisition in P. Excelsior (P. Unique × P. cockburniana), which is three parts of the latter and one part of P. pulverulenta, although from the Mendelian standpoint this may not be strictly correct. It is a brilliant crimson-scarlet, a perennial and hardy, and when shown before the Royal Horticultural Society on June 3 last received a unanimous award of merit. P. Excelsior was raised by Mr. T. W. Briscoe at Messrs. Veitch's Langley Nursery, and for further proof regarding its perennial character it may be added that all the stock has been worked up from a single specimen. The flowers are thrum-eyed, and are produced in tiers or whorls as in P. pulverulenta. Those on the examples shown averaged between four and six. So far as colour is concerned, P. Excelsior occupies a high position among hardy Primulas, and will, no doubt, be eagerly sought for by hardy plantsmen.

A USEFUL AND HARDY PINK.

THERE are many amateurs who are unable to grow the Carnation and Picotee, but Pinks, especially the white Mrs. Sinkins, readily adapt themselves to almost any position in the ordinary garden. There are other kinds in cultivation, but the one quoted is probably the best for general purposes. It is white and delightfully fragrant. Pinks are occasionally employed as an edging to the flower border, where they look very effective, and a few clumps dotted here and there among other plants are also appreciated, while for cutting purposes they have few equals. Soon after the plants pass the flowering stage propagation may commence if it is desired to increase the stock, and even where this is not necessary it is advisable to work up a few young plants at intervals of two or three years, because from these the finest flowers are procured.

Propagation is effected by pipings, which are the growths at the base of the old flower-stems. These are slipped off, and may be inserted either in the open ground or in a garden frame or hand-light; but if the latter method is chosen, the lights must not be kept too close, or the plants will, no doubt, damp off. Before beginning operations the soil should be made fairly fine, when the pipings can be inserted with the finger, pressed firmly, and watered in with a fine-rosed water-pot. Choose, if possible, a dull, cloudy day, and if not placed in their permanent quarters, select a shady part of the garden. If kept moist for a few weeks, they will soon emit roots, and may be transplanted to any position in October. S.

THE FRUIT GARDEN.

SEASONABLE NOTES ON FRUIT.

Strawberry Propagation.—Those who desire to produce the finest crops of Strawberries, irrespective of whether the plants are to be fruited in pots or in the open garden, make it a rule to commence propagation early. And they are wise in their generation. It is also excellent practice, though it cannot always be adopted, to secure runners from plants which have flowered but have not been permitted to carry their crops. The object of this is to ensure the finest possible runners at the earliest possible date. Generally, the first runner on a strig is the best, but sometimes the second one is superior, in which event it should be selected, but it is not desirable that more than one on a strig shall be taken, except under compulsion. When pegging down is done in the alleys, an abundance of refuse manure or sweet leaf-soil ought to be incorporated with the ordinary soil, as the young roots will cling to it and enable the plants to be moved with a ball when the crucial time comes. Preference should, however, be given to layering into plunged pots or squares of turf inserted grass side downwards, more particularly when the plants are wanted for culture in pots. It will be necessary, in any event, to apply water in dry weather, or satisfactory roots will not be formed.

Thinning.—The thinning of crops cannot be put in hand too early after it is once clearly seen which fruits are naturally taking the lead in swelling. Neglect of thinning spells small fruits, but it has the still more disastrous effect of prejudicing the crop in the succeeding season; in fact, when a tree is overcropped in the early stages, it is often thrown into that abnormal condition which spells a crop in alternate years, whereas, when rational methods prevail, there is fruit in all seasons, provided that nothing, such as bad weather, over which the grower has no control, comes along.

Pinching Gooseberries and Currants.—When these valuable fruits are in excellent health, they produce an immense number of summer shoots, and it behoves the cultivator to reduce them with a free hand. They deprive the swelling crops of the light and air which they demand to enable them to put on perfect colour and develop the finest flavour, and they rob the buds at the base of the spurs of the same essentials to proper progress. The initial pinching is generally to about six leaves, but the exact number must, of course, be decided by the condition of affairs prevailing in each plant. Later, other growths will start, and these must, in their turn, be reduced; the accepted rule is to two buds. This treatment is wise with all forms of plants, but is imperative in the case of the popular cordon.

Wall Trees.—In addition to the training which has to proceed in wall trees throughout the whole of the growing season, it is most important that the soil shall be maintained pleasantly moist at the roots. Immediately there comes complete dryness the plants lose their power to imbibe food, and the progress of the crops is arrested automatically. Wall borders are never as moist as the soil in the open quarters of the garden, because some rain must be thrown off, while if the walls are of bricks, the trouble is accentuated, since the bricks themselves absorb much moisture from the ground. The keen grower is constantly on the watch, and when the soil approaches dryness he gives it a thorough soaking, and perhaps supplements it with weak liquid manure. An occasional heavy hosing also does an appreciable amount of good.

Outdoor Grapes.—There are many people who hold the opinion that Grapes are not grown out of doors as generally as they might be to advantage, but one has doubts upon the point when one sees the wretched specimens of many gardens. The Vines are never pruned, the bunches are never thinned and the plants are never watered, with the inevitable result that the crop is a miserable apology for what Grapes ought to be. At this stage it will be necessary to thoroughly moisten the soil, and if a shortage of food is suspected, add a heavy application of liquid manure. See that the laterals bearing bunches are stopped at one or two joints beyond the fruit, according to the space available for perfect leaf development.

GARDENS OF TO-DAY.

A NOTABLE RIVERSIDE GARDEN: TAPLOW COURT.

THOSE who seek pleasure in the neighbouring reaches of the Thames are familiar with the site of Taplow Court, the grounds of which extend a mile and a half along the river above Maidenhead. But few know anything of the intensely interesting associations of this historic spot. The situation is a prominent one, occupying a site on a spur of the Chiltern Hills which has been lived on continuously from time immemorial. At the present time Taplow Court is the residence of Lord Desborough, who takes his name from the Hundred of Desborough, which includes most of his old constituency of South Bucks and also Marlow, which, Lord Desborough's great-grandfather, Pascoe Grenfell, represented in Parliament from 1802 to 1820. In the time of Alfred the Great, the county of Bucks was divided into Hundreds.

SOUTH FRONT OF TAPLOW COURT, SHOWING TUMULUS OR ANCIENT BURIAL PLACE.

In an old churchyard on the south front of Taplow Court is a large, grass-covered mound or tumulus. This was the burial-place of a Viking, who probably came up the river and was killed in battle on the top of the hill. This tumulus, of which an

BOULTER'S WEIR AS SEEN FROM THE WELL-WOODED GROUNDS AT TAPLOW COURT.

illustration appears on the previous page, was opened in 1883, when a large number of gold and silver and glass vessels were found, together with the remains of the warrior's sword and spear, and these have been deposited in the British Museum. The tumulus, when opened, was found to consist largely of chipped flints, showing that the site had been occupied for some time by the people of the Flint Age. There are other tumuli in the woods above the river which have not been opened, notably the one under an old Oak tree which is reported to have been planted by Queen Elizabeth during her imprisonment at Taplow Court in the reign of her sister Mary; the tree is thought, however, to be of greater age. A pond near the house—now, by the way, aglow with Irises and Water Lilies—is known as Bapsey Pond, and is claimed to have been used as a pool for baptisms by Early Christians.

The Cedar Walk.—From an arboricultural point of view the outstanding feature is unquestionably seen in the stately and majestic Cedars that have been planted with a free hand in these extensive gardens. One veteran Cedar of Lebanon, obviously the oldest in the place, is considered to be one of the finest specimens in the country. The girth of this tree, taken on the occasion of our visit, was found to be 16 feet, measured 5 feet from the base. Its history is lost in obscurity, but from its appearance it is probably one of the oldest in the country. It is worth noting, however, that none of the original Cedars of Lebanon introduced to this country is still standing. This is the opinion of our best authorities, and while there is some doubt concerning the date of introduction, it was probably about the middle of the seventeenth century. A magnificent Cedar Walk is one of the features of the place. Within recent years this has been extended, and is now half a mile long. The continuation was started by trees planted by the late King Edward VII. and Queen Alexandra, and is finished by trees planted by His Majesty King George V. and Queen Mary. Among other notable personages who have likewise planted trees in the Cedar Walk are the Duke and Duchess of Connaught, the Duchess of Saxe-Coburg, Princess Mary of Wales, the Duke of Portland, Prince Arthur of Connaught, Princess Patricia of Connaught, the Crown Prince and Crown Princess of Sweden, Prince Christopher of Greece, Prince George of Greece, Prince Fushimi of Japan, Lord Desborough, Lord Addington, the Hon. Monica Grenfell, the Right Hon. T. F. Halsey, Pro. Grand Master of England; Sir Arthur Godley, K.C.B.; the Right Hon. H. H. Asquith, M.P.; the Right Hon. A. J. Balfour, M.P.; Earl Grey, Viscount Milner, the Right Hon. J. B. Haldane, M.P.; the Right Hon. Alfred Lyttelton, M.P.; and the Right Hon. J. Chamberlain, M.P.

A great variety of trees, including Oak, Elm, Ash, Beech, Sycamore, Poplar, Box and Yew, flourish in the grounds, which, by the by, are situated over chalk. The Spurge Laurel or Daphne Laureola grows freely under the shade of trees, while even Rhododendrons, which usually do not grow well over a chalky soil, give a fairly good account of themselves.

Among a number of shrubs from New Zealand presented by the late Right Hon. Richard Seddon were observed one or two fine specimens of Pittosporum eugenioides, which were perfectly happy in the garden outside, even though it is a subject usually relegated to the greenhouse.

The Flower Garden. — The formal garden near to the house is well designed with bold and effective beds. Tulips are extensively used for spring effect. Early and late varieties are planted alternately, and these, with a groundwork of pink and blue Myosotis, keep up a long display of bloom. Standard varieties of Tulips, such as Clara Butt, Pink Beauty, Inglescombe Yellow, Pride of Haarlem and White Swan, are much in favour. At the present time the beds are brilliant with Pelargoniums Henry Jacoby, edged with Flower of Spring.

Among the much-prized garden ornaments are three stone urns, presented by Queen Anne to the Earl of Orkney, then proprietor of Taplow Court, who commanded the right wing at the Battle of Blenheim. Two recent additions to the garden take the form of handsome Italian gates and a fountain with mosaic basin, both of which were presented to Lord and Lady Desborough on the occasion of their silver wedding.

Herbaceous borders and the Rose garden are much admired, and add to the beauty of this delightful garden. The rock garden—unlike some of the modern examples, where rocks and labels form the most prominent features—is freely planted with old-world flowers, forming a happy blending of a wild garden with that of a rock garden. The two illustrations pages 324 and 327 of this phase of gardening give a fair idea of the charming effects now to be seen. The tall spikes of Foxgloves stand out in the background from a wealth of greenery of hardy Ferns. Clumps of Irises here and there are interspersed with London Pride, while Corydalis, Periwinkle and Arabis each does its work in clothing large stones and rocks. The rest is filled in with large patches of Cerastium and such easily-grown subjects as Thrift, Iberis, Rockfoils, Stonecrops and dwarf Campanulas.

We cannot bring these notes to a close without paying tribute to Lord Desborough, who is the type of Englishman that every Britisher admires. His whole-hearted interest in manly sports, such as

THE FAMOUS CEDAR WALK, TAPLOW COURT, WHICH IS HALF A MILE LONG.

swimming, rowing, fencing, boxing, &c., in each of which he has achieved great success, needs no further comment here. As Chairman of the Thames Conservancy it is fitting that the riverside residence of Taplow Court should be in the possession of one who cherishes its associations in so high a degree.

THE GREENHOUSE.

CANNAS IN THE GREENHOUSE AND FLOWER GARDEN.

IN the nurserymen's catalogues of twenty-five to thirty years ago the only Canna that was recommended for the sake of its flowers was Canna iridiflora, the others being regarded solely as ornamental foliage plants. Now, however, all this is changed, and both for the decoration of the greenhouse and the embellishment of the outdoor garden Cannas occupy a prominent position. This is not to be wondered at, as the flowers of many of them are really gorgeous, and a succession is kept up for a long time, added to which the leafage is very handsome. For the present-day race of Cannas we are, in the first place, indebted to M. Crozy, then of Lyons, who devoted a great deal of time and attention to their improvement. The result of this was first manifest in the year 1888, when some half-a-dozen varieties were given first-class certificates by the Royal Horticultural Society, that honour being easier to gain then than it is now. From their showy character these Cannas made quite a *furore*, and for trade purposes they were propagated as rapidly as possible. What is more, the raising of new varieties was taken up by others, so that each year saw additions thereto. Striking, from their novelty, as were those of 1888, they are now quite out of the running, the more recent varieties being in all respects superior to the early ones.

For the embellishment of the greenhouse these Cannas may be grown in different ways. In the first place, good flowering examples may be grown in 6-inch pots, and, if liberally fed, they will yield a wealth of blossoms. Larger examples can, of course, be readily obtained, either by increasing the size of the pot or by growing them in tubs. In this way they are very useful for the decoration of the conservatory, or for standing out during the summer on balconies, terraces and similar positions. Besides this, they are of great service for bedding out during the summer months, that is, if their somewhat hungry nature is taken into account. This fact was forcibly brought home to me during the hot, dry summer of two years ago. Having occasion to visit two different gardens, I found in one some beds of Cannas which should have been very fine, but were simply struggling for existence. The beds in which they were growing had the soil heaped up above the surrounding ground, as is so often seen, the result being that it was quite impossible to keep the roots supplied with an adequate amount of moisture. In the other the beds were finished off somewhat saucer fashion, so as to conserve all the moisture, and the condition of the plants was splendid

When these Cannas are grown in pots, a desirable feature is that they can be safely wintered almost anywhere if kept free from frost. Another point is the readiness with which they can be increased, as for propagating purposes an established plant can be divided up into as many pieces as there are crowns or eyes; and, placed under conditions favourable to growth, each will form a flowering plant in a short space of time. Cannas need a fairly rich soil, such as two-thirds good loam to one-third well-decayed manure, while a sprinkling of sand will serve to keep all open. Good flowering examples may be purchased at this season at a comparatively cheap rate; but, owing to the expense of carriage, many prefer to note the best when in flower, and obtain them during the winter in a dormant state. At that time the rhizomes can be sent by post.

EARLY SUMMER IN THE ROCK GARDEN AT TAPLOW COURT.

As tastes differ so much, a selection is a difficult matter, but the following are all good: Alphonse Bouvier (rich crimson), A. Ortmann (velvety purple), Baron de Richter (bright apricot, lighter edge to the petals), Black Prince (velvety maroon), Dr. Budingen (crimson scarlet), Duc Ernst (reddish scarlet), Elizabeth Hoss (yellow, small red dots), Evolution (yellow, pink centre), Frau E. Kracht (rosy salmon), Fürst Weid (deep crimson), Gaekwar of Baroda (yellow, large crimson spots), J. B. Van der Schoot (lemon yellow, purple spots), Jupiter (scarlet, edged yellow), King Humbert (bright reddish orange), Königin Charlotte (dwarf, scarlet, gold edge), Météore (orange scarlet), M. de Raynal (pink), Niagara (scarlet, broad yellow margin), Ottawa (rosy cerise), R. Wallace (canary yellow), Stuttgartia (scarlet and orange), William Saunders (rosy crimson) and William Watson (deep salmon).

H. P

ORCHID NOTES.

CYMBIDIUMS.

PROBABLY no group of Orchids has attained such popularity during the last few years as the Cymbidiums, and this is undoubtedly caused by the reintroduction of that beautiful species C. insigne (syn. Sanderi). It was first discovered by M. G. Bronkart in 1900, who found it growing along ravines in Annam. Since then M. Micholitz (Messrs. Sander's collector) has sent it home in quantity, and now there is scarcely a collection of renown that does not contain this fine plant. The flowers are white, tinged with rose pink, while the lip is handsomely marked with rosy crimson. It has proved a magnificent parent, and among the progeny already shown are C. Pauwelsii (insigne × lowianum), C. Alexanderi (insigne × eburneo-lowianum), C. gottianum (insigne × eburneum) and the pretty C. Doris (insigne × traceyanum). Others are in commerce, but still there is plenty of scope for new raisers. As amateurs' Orchids, Cymbidiums occupy a leading position, especially the easily-grown C. lowianum, also traceyanum, eburneo-lowianum, low-grinum, giganteum, eburneum and the pendent devonianum. Cymbidiums last a long time in full beauty, their graceful, arching sprays of large and attractive flowers always being admired, while as foliage plants they are not to be despised in the Orchid-house.

Cultural Details.—An ideal temperature is one between 55° and 65° Fahr., the latter for the summer months when fire-heat is needed, while during the winter period the thermometer may fall 5° lower, and no harm will accrue, providing the atmosphere is on the dry side. The season for

repotting will soon be at hand for the majority of both species and hybrids, if such an operation is deemed necessary. Annual disturbance is not required, and as a general rule every third year will be sufficient; but it is best to give attention to a few plants each season, rather than repot the whole collection at one time. A suitable rooting medium consists of the best fibrous loam one-half, Osmunda fibre one-fourth, and partly-decayed Oak leaves one-fourth, with a free admixture of finely-crushed crocks or charcoal, well mixing the whole a week or so before it is required. The group of Orchids under consideration are strong-rooting subjects, and top-dressing is of no avail. Healthy examples which have filled their receptacles with roots may be moved on intact, choosing a pot two sizes larger. A few potsherds should be placed in the bottom for drainage and the soil pressed moderately firm; but it ought to be just below the rim when the operation is finished, thus allowing ample space for watering, for at no time must they be permitted to become dry at the base. If any plants are in a bad condition, all the old soil and decayed roots should be removed, also a few of the back pseudo-bulbs where they are numerous, when in all probability a smaller pot will be needed. Careful watering and extra shade for a few weeks will then soon pull them round. A moist, buoyant atmosphere is essential during the period of growth, and shade from direct sunlight is advised, or the plants will present a somewhat yellow appearance. A light spray overhead with tepid water will be found beneficial on bright, hot days, which not only promotes luxuriant growth, but tends to keep insect pests in check, particularly if the under sides of the leaves are sprayed. Once a year the plants ought to be carefully sponged over with a weak solution of some reliable insecticide, and at any time if scale is noticed, a pointed stick being the best article for its removal, while some growers utilise an old tooth-brush for this purpose.

Raising Seedlings.—So much interest is now taken in raising Orchid seedlings that a few words on the subject may be welcome. Cymbidium seed may be sown on prepared pots (as illustrated in The Garden for January 11, 1913) directly it is ripe, or around the base of an established plant, selecting one that does not need repotting, and free from moss and lichen growth. The chief factor towards success in this intensely interesting, and one might say fascinating, work is that the pots or plants are never dry. Even if this should happen for a few hours the results will be disastrous, because the seed is not covered in any way. When the first tiny leaf is made, the seedlings may be pricked off on prepared pots and grown on in a temperature of 60° Fahr., keeping the plants sprayed over occasionally and free from thrip.

Sentinel.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Carnation Thomas a Becket.—A very beautiful fancy border Carnation of excellent size and form.

Carnation Scarlet Gem.—Of good colour, and shapely withal. These were exhibited by Mr. C. Blick, Warren Nurseries, Hayes, Kent.

Trollius patulus Bees' variety.—The plant is 9 inches or a foot high, the green leafage marked after the manner of these plants. The flowers are rich golden, 1½ inches across, and most attractive. The plant was well shown. From Bees, Limited, Liverpool.

THE NEW TROLLIUS PATULUS BEES' VARIETY.
(*About one-half natural size.*)

Sweet Pea Frilled Pink.—The name is descriptive, both as to colour and form. It is an interesting novelty in the Sweet Pea world. From Messrs. Dobbie, Edinburgh.

Sweet Pea Edith Taylor.—The flowers of this are bright rose pink and of good size. Seen in the sunlight, it is a most brilliant flower. Shown by Mr. Thomas Stevenson, Addlestone, Surrey.

Statice Suworowii alba.—Just a good white variety—not pure white—of this well-known annual. It is very pretty and effective, and in decoration, we have no doubt, will be much sought after. Exhibited by Mr. R. C. Notcutt, Woodbridge.

Philadelphus Norma.—This we regard as the finest of the Mock Oranges to date, not merely in the size and purity of its flowers, but also in the way they are traced upon the branches. The flowers, which are single, really appear to occur in long racemes. From Sir Trevor Lawrence, Bart., Dorking (gardener, Mr. W. Bain). (See page 323)

Pæonia Gismonda.—The colour is rosy pink and the flower fully double. It is, of course, one of the herbaceous section. From Messrs. R. H. Bath, Limited, Wisbech.

Rose Paul's Lemon Pillar (Noisette).—The flowers are of large size and, as shown, of a creamy white, doubtless due to age. It appears to be a good and useful sort. From Messrs. Paul and Son, Cheshunt.

Saxifraga brunoniana.—The flowers of this pretty Himalayan species are yellow, the petals acutely pointed. It is, however, welcome for the rosy crimson colour of its numerous stolons, as these, when seen in sunlight, are brilliant indeed. It is a moisture-loving species, and, given this, should be planted in full sun. From Messrs. William Fells and Son, Hitchin.

Spiræa sargentiana.—A bushy-habited plant with numerous white flowers in clusters. It is very free. From the Hon. Vicary Gibbs, Elstree, Herts.

Astilbe Britannia.—The flowers are bright rosy crimson, arranged in plumes nearly three feet high. From Mr. Profittlich.

Rose Mrs. George Norwood.—This is a pink-flowered sort of the Hybrid Perpetual class. The colour may be described as a pale Mrs. J. Laing, though the flowers are longer and more tapering. Exhibited by Mr Elisha Hicks, Twyford.

Blandfordia Cunninghamii.—A genus of Liliaceous plants, the members of which are rarely seen. The species now mentioned is a native of New South Wales, and has long been known to cultivators. The flowers are crimson red, the upper part yellow, drooping, and arranged freely in a scape of about three feet high. Probably a scarce plant in cultivation to-day. From Mr. A. Worsley, Isleworth.

Gladiolus Queen of the Whites.—This is a rather good white variety, and the only one to which an award was granted. Exhibited by Mr. R. Hoogstraten, Sassenheim.

NEW ORCHIDS.

Two charming novelties, both gaining awards of merit, were shown by Baron Bruno Schröder, viz., Odontoglossum crispum The Baroness, a magnificent variety of perfect form with violet purple blotches, and Cattleya gaskelliana Fairy Queen, a fragrant and well-coloured variety. Messrs. Charlesworth and Co. were given an award of merit for a remarkable hybrid of brilliant colouring, Oncidioda Bella (Oncidium marshallianum × Cochlioda nœtzliana).

The foregoing awards were given by the Royal Horticultural Society on June 17.

GARDENING FOR BEGINNERS.

CHRYSANTHEMUMS. PRACTICAL HINTS ON WORK TO DO NOW.

THE earliest-rooted batch of plants will now be getting established in their flowering pots. Although the heavy work of potting and placing will be over, there will be daily attention needed, and, although of a light nature, it is of vast importance, and must never be neglected. For some time after the final potting is done the plants are usually kept in blocks—that is, in several rows abreast—but they must be more thinly disposed in good time before they get drawn up and weakened thereby.

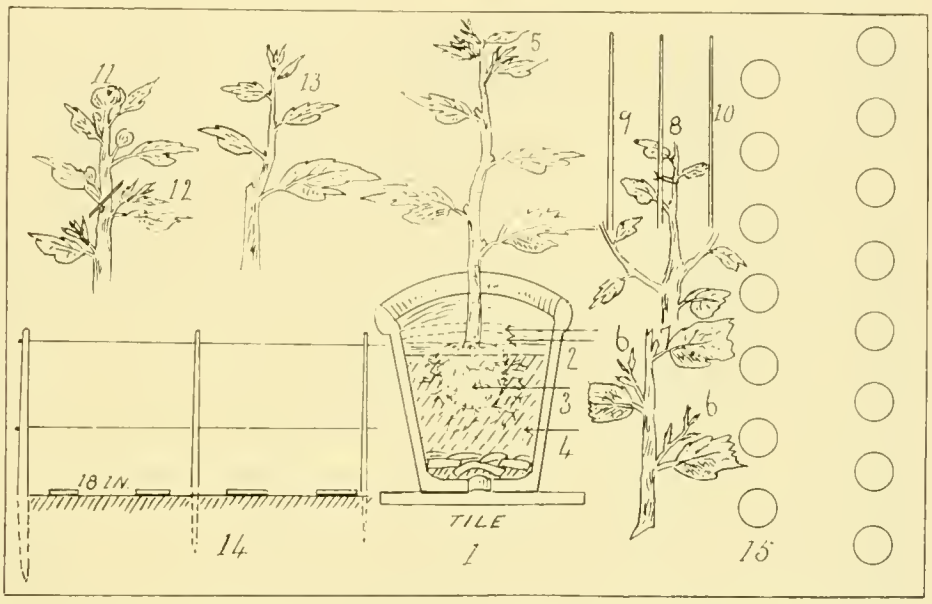
About Top-Dressings.—The time for these to be applied will depend upon the condition of the roots of the plants. Some cultivators keep strictly to a rule, and do not top-dress until after the buds are "taken." This is a mistake, as the plants may suffer in the meantime, and they should be strong when the buds form. Again, it is bad management to wait and then apply one heavy surface-dressing. Directly roots appear on the surface, put on a thin sprinkling of rich compost. Fig. 1 shows a plant on a tile. Ample space is left for top-dressings, and these must be applied in a series, putting on a thin layer each time, and watering always with a rosed watering-can. No. 2 shows the space for the top-dressings; No. 3, the roots from the old ball of soil entering the new compost, No. 4. So treated the plants are always making progress, and, of course, liquid manure and other stimulants may be given in addition as required.

The Break and Resultant Shoots.—No. 5 shows the young shoots growing after the first break; but some varieties give trouble in this matter, as I will explain. On the main stem, below the shoots selected to grow on, shoots will also grow, as denoted at Nos. 6, 6; all such must be pinched out, as shown at No. 7.

Tying and Staking.—The main stem will have been staked at an early stage, but the young shoots—following the break—Nos. 8, 9 and 10, will also need stakes, and when the varieties are tall-growing they must be fastened to the wire supports. Very dwarf varieties only require one strong central stake.

Premature Bud-Formation.—Instead of a free growth, buds form, as shown at No. 11. In a few days' time a new shoot will grow past these buds; but they in turn also bear buds when about two inches long. In such cases it is advisable to pinch off the top to a point denoted by the dark lines as shown at No. 12. Very often a free growth of shoots is obtained by this treatment, as shown in sketch No. 13.

Plants in Their Summer Quarters.—A few strong stakes driven into the ground, and wires fastened to them, as shown in sketch No. 14, will save the cultivator the loss of many valuable branches and buds if the plants are made fast to the wires in due course. The rows of wires should be from 3 feet to 5 feet apart, according to the height of the plants, and about eighteen inches asunder in the lines from pot to pot. Bush plants, especially those intended for specimens, must have more room still, and be set out as shown by the circles No. 15. If the pots are held firmly in position, tall stakes will not be needed for the support of these plants.



THE METHOD OF TOP-DRESSING AND DISBUDDING CHRYSANTHEMUMS.

CUTTING HEDGES IN SUMMER-TIME.

To some persons it may seem a very easy task to trim a growing hedge. The experienced fenceman knows exactly how to do the work so as to improve a bad hedge or keep a good one in first-rate condition. Much may be done at this season to remedy defects, such as hollow places at the top and openings near the bottom. If the fence be a long, straight one, the novice should fix a garden line to stakes and then cut the top shoots back to the fixed line. If this be done, there can be no great error in trimming so as to secure an even top surface. Passers-by are severe critics of hedge-trimmers, and cause should not be given for adverse criticism.

The base must be wider than the top, but not out of all proportion; the sides should slope evenly from a given point at the bottom to one at the top. A hedge 2 feet wide at its base should be about sixteen inches wide at the top, both sides tapering evenly upwards. One often sees hedges that have been unduly hollowed out at the bottom. Such never present a pleasing appearance, and they readily permit dogs and fowls to go through. In the case of fowls, they often scratch up the soil and do their toilet under the sheltering hedge, and quickly spoil the bank and the general appearance. Where there are big depressions in a hedge it is not advisable to leave the young shoots in that part too long. They must be cut back to about four inches, and at the next cutting left a couple of inches longer, and so on, until the low portion has filled in a solid form to the normal level of the hedge. The young shoots on a perfectly-formed hedge must be cut quite hard back to the stumps of last year's growth; then there will be no danger of the fence getting out of true form. Use sharp, well-oiled shears. Hedges of Laurel must be cut with a knife, removing one shoot at a time. To cut through leaves indiscriminately with a large pair of shears would quite spoil the appearance of a hedge of this kind. B.

POTTING THE CHIMNEY BELL-FLOWER.

Campanula pyramidalis is a splendid subject for growing in pots for the furnishing of cold greenhouses and conservatories during the early part of the summer. One sometimes sees splendidly-grown specimens not only in the greenhouse of a keen amateur cultivator, but also in groups at shows—groups of miscellaneous plants arranged for effect. Much care is needed in order to grow good plants. If they are allowed to remain for a considerable time in boxes or seedling beds before being placed in flower-pots, great difficulty will be experienced in getting them into good condition for flowering. These plants, even in a very young state, produce long tap-roots and few of a fibrous nature, so that it is advisable to place them in the pots at as early a stage of growth as possible. Where convenient, use deep, narrow pots. Do not cut off any portion of the tap-root, but twist it round so that it may be potted whole. Use a medium heavy compost, made porous by the addition of sand, and then plunge the pots to their rims in ashes in a cold frame. Between the pots leave a space of 6 inches. Repot the plants directly they require more rooting space, using a similar compost with the addition of some well-rotted manure. Avon.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Routine Work.—For the next month or two mowing, edging and rolling of paths will be the principal items of work, and to keep things in good order, nothing must be allowed to get behind. Even mowing it left over for one week makes a double amount for the following week, so it is wise to skim the lawns over with a light machine even if there is not a heavy crop of grass.

Shrubs.—Those planted early in the season, or even last autumn, must be periodically inspected, and, on the slightest sign of drought, copious waterings should be given. Specimen trees may even have to be sprayed overhead morning and evening to ensure them coming through a trying time of drought. Mulching also with short manure or leaf-mould is a distinct advantage in such cases, and may help to save the lives of many valuable shrubs or trees.

The Rose Garden.

Just now there is much to do in the Rose garden, as not only must the young shoots be kept free from fly by hosing overhead or spraying, but the plants must be kept well watered if a full measure of success is to be attained with them. Removal of the dead blooms must also be attended to, as nothing tends more to make the garden look untidy than numbers of dead and dying petals lying about.

Mildew.—Wherever this is noticed, a little dry sulphur should be sprinkled over the foliage early in the morning, and, when the sun gets up, the fumes will in all probability prevent it from spreading. Where the attack is more general, spraying with a fungicide must be resorted to, and this may have to be repeated weekly to keep it in check, but an endeavour must be made to keep it off the opening flowers as much as possible.

Plants Under Glass.

Caladiums that are well rooted may be helped a little with waterings of cow-manure; but these, being very soft-rooted subjects, must not be given strong doses of liquid or artificial fertilisers. Specimen plants in large pots should be carefully staked out, so as to give each leaf as much space as possible to develop, and where these plants are to be used in the winter garden or conservatory, they must be inured to rather more air than is usual under the ordinary growing conditions of the plant stove.

Achimenes are growing freely and should now be staked, using a very small twig to each growth. Keep the plants in such a position that they do not become attenuated, though a little shade is quite necessary for their well-being. As they commence to bloom give them bi-weekly waterings with liquid manure, with a little Clay's Fertilizer occasionally as an extra stimulant.

Cyclamen nicely established in 3-inch or 4-inch pots should be potted on into their flowering pots at once, a fairly rich, porous compost suiting them best. From now onwards a frame with a cool ash bottom will suit them well, frequently spraying the plants to keep insect pests in check. A little shade on the glass during bright weather is also essential.

Medeola asparagoides also should be potted on and placed in positions where the plants may be trained up cotton or strings. A stove is not at all necessary for the cultivation of this useful plant, as more hard and useful sprays are obtained from an intermediate or cool house. A further batch of seedlings may be raised, and these, if kept growing through the winter, will provide really good material for early spring decoration, a time when it is very much in demand.

The Kitchen Garden.

Asparagus.—Now that there are plenty of other vegetables to be had, the Asparagus-bed should be left severely alone, allowing all the growths that are made from now to mature, thus building up good crowns for next season. On light soils a mulching of short manure, well watered in, will help the growth considerably, or a dressing or two of an approved fertiliser may be given. Where a mulching is not given, keep the beds clear of weeds by carefully hoeing or hand weeding, as weeds allowed to go to seed prove a pest for years to come.

Brassicas.—Continue to plant Brassicas as they become fit or as the ground becomes vacant, choosing, if possible, a showery time for the purpose, late-sown plants often proving more serviceable than those put in very early.

Coleworts.—A further sowing of this useful vegetable should be made, and Christmas Drumhead, a very hardy little Cabbage, sown at this date is exceptionally useful for cutting during the early winter months.

Fruits Under Glass.

Inside Vine Borders need plenty of water at this season, and Vines still swelling their fruit may be carefully fed, though it is not advisable to be too free with manure while they are in the stoning stage; but after this the late Vines will be ready for a couple of good dressings two or three weeks apart.

Outside Borders.—Where these are relied upon for late Grapes, frequent waterings may be necessary, or, if experiencing a wet time, manure should be sprinkled on the surface for the rain to wash it in. Mulching is not really necessary, but where the border is very light or dry, a light mulching may be given, though I am inclined to think that the extra warmth in an unmulched border is conducive to better quality in the fruit.

The Hardy Fruit Garden.

Mulching Fruit Trees.—By this date the majority of fruit borders will have got pretty warm, and if dry weather ensues, it may be an advantage to mulch all the trees carrying a good crop of fruit, whether it be Apples, Pears, Plums, Peaches, or Apricots, giving a good watering immediately afterwards to settle the mulch down and to wash the manurial properties into the soil rather than let them be evaporated into the air.

Summer Pruning and Training.—Though I touched on this subject a week or two ago, it was rather early then for the majority of trees; but now the greater portion of the trained trees may be gone over, reducing the growth to 3 inches or 4 inches or, in some instances, even less. When the trees have not developed sufficiently to cover the whole of the space they are to occupy, the leading shoots should be tied in carefully, bearing in mind at all times what is required for the further development or furnishing of the trees.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Staking Hollyhocks.—Stakes are a necessary evil, and should obtrude as little as possible. Although Hollyhocks require tall stakes, they, happily, unlike Dahlias, can do without them for a considerable time, but the want must now be supplied. Stout stakes about four and a-half inches high are what they want. Tie with binder twine, but do not fix a tie nearer the top of the plant than 2 feet, or strangulation will result.

Oriental Poppies.—These make a brave show during the month of June and the early part of July—too gaudy for some tastes; but in addition to the flaunting red of the type, there are now several varieties having flowers in subdued art shades. It is late enough now to sow these; but if sown within the next week or ten days, they will make nice plants for planting next spring.

Carnations are now in bud, and will be grateful for a little stimulant to assist in swelling the buds. Soot, fowl-manure, nitrate of soda—any of these will do if applied sparingly. If nitrate of soda is used, care should be taken that it does not come in contact with the foliage, which it will burn. Attend to tying or training, according to the type of stake used.

The Rose Garden.

Tying Climbers.—Climbing Roses are now making rapid growth, which should be regulated and tied in as growth advances. All superfluous main shoots should be cut away, so that those retained may get as much light and air as possible.

Cultivating the Soil.—Nothing contributes more to the welfare of Roses than to keep the soil regularly stirred.

Carpeting.—Opinions differ widely regarding the practice of carpeting Rose beds and borders. Where exhibition blooms are aimed at, carpeting is out of the question; but where Roses are grown for general decorative purposes, the system has much to commend it, especially where a bed is planted with a single variety and it is one possessed of considerable vigour. Violas are undoubtedly the best subjects for this work, and whites, pale mauves and pale yellows like Primrose Dame will, generally speaking, prove the most effective. Those who intend adopting the system should be thinking about stock for autumn propagation.

The Rock Garden.

Veronica saxatilis.—The bright blue flowers of this prostrate shrubby Veronica are very attractive, holding their own with the varieties of Lithospermum prostratum. It is by no means particular as to soil.

Potentillas.—Some of the dwarfer species make excellent subjects for the rock garden. Specially to be commended are P. alba (white, 6 inches), P. nitida (pale rose, 6 inches), P. nivalis (white, with silvery foliage, 6 inches) and P. Thurberi (reddish brown, 9 inches). None of the Cinquefoils require special treatment, except that they enjoy the sunshine.

Plants Under Glass.

Hydrangeas.—Autumn-struck plants with single trusses, if they have been forwarded in heat, will soon be getting past their best, and should have the flower-heads cut away. They should then be placed in an airy frame and receive some feeding to fit them either for producing a crop of bloom next season or for furnishing vigorous cuttings.

Streptosolen Jamesonii.—The deep orange flowers of this conservatory climber are very telling. Spring-struck plants should be fit for a shift into 5-inch pots. Sandy loam suits them, and if a little peat is added they will appreciate it. Shade only during very strong sunshine, and after August comes in gives them all the sunshine available.

Fruits Under Glass.

Guavas.—Some families are partial to this fruit, which is generally grown on the back wall of a vinery. The fruits will now be swelling, and the plants should be assisted by occasional doses of liquid manure.

Tomatoes.—Plants ripening their fruits should get all the light possible, and while overwatering should be guarded against, the plants should never be allowed to get dry at the root, or cracked fruits will be the result. If seed-saving is intended, the first fruits on a plant are the most vigorous, and should be selected for the purpose. Choose fruits typical of the variety in hand, always avoiding corrugated fruits.

The Hardy Fruit Garden.

Taking Strawberry Runners.—This work may still be done, but no time should be lost if autumn planting is the object in view. Layering in pots as recommended for forcing purposes is the best plan, but very good results can be obtained by layering on small squares of freshly-cut turf laid grass side downwards.

Protecting Strawberries.—If not already done, nets must be put on forthwith. In buying nets it is well to remember that when diamond pattern nets are stretched their full width, they shrink by one-third of their nominal length, so that when a net 50 yards in length as per list is stretched to its full width, it will prove to be only 33 yards in length. As mice are sure to make their appearance, a few traps should be set in each break.

The Vegetable Garden.

Turnips.—Make another sowing of White Early Milan for autumn use and thin successional sowings. Remove plants running to seed, as they rob the ground in the effort of reproduction.

Spinach.—It is next to impossible to get a supply of Spinach in the height of summer, and those who planted a portion of a south border with New Zealand Spinach will now be reaping the benefit. It is perhaps not generally known that as a substitute for real Spinach the leaves of the Silver or Seakale Beet are superior to the so-called Spinach Beet.

Onions must continue to have some feeding material of a nitrogenous nature. The hoe should also be kept going among the crop, and hand weeding must be resorted to in the lines.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

SOME GOOD THINGS IN A SCOTTISH GARDEN.

I HAVE always contended that everyone ought to cultivate the very best strains of both flowers and vegetables, as the labour entailed is identical, while the results are altogether superior. With a poor strain of anything there is not the slightest satisfaction to be derived from first-rate culture, only disappointment, and eventually a disposition on the part of the grower not to take undue trouble. How different it is when we know that the plants we tend daily will, with proper attention, produce crops that we can be proud of, and for which we have had no extra labour or trouble. I am in the happy position of being able to carry out my ideas on this subject, my employers delighting in having the best procurable strains of everything. A few notes on some of the finer things we have obtained during the last dozen years may be of interest to others situated in a cold, late district such as we have here. I will take flowers first, and only mention a few of the outstanding kinds that invariably succeed here.

Myosotis.—At the present moment we have a very lovely bed of Barr's Alpine Blue Myosotis, which has been greatly admired. I am safe in saying that it is by far the finest Forget-me-not we have ever tried. It comes absolutely true, is a lovely deep blue colour, and the stems are nearly a foot long, which makes it admirable for cutting. It is very hardy, a most profuse bloomer, and is earlier by a week or ten days than Sutton's Perfection. It may still be sown if a box set in a greenhouse is used. A real gem.

Delphiniums.—These thrive remarkably well. The plants in a large bed on a west border are never less than 10 feet high, the spikes of large flowers being 5 feet long. Grown from Barr's seeds.

Polyanthuses.—We grow two very beautiful strains, both being very fine in their way. Storrie and Storrie's Superb Mixed are prominent, because of the large size and wonderfully varied and brilliant colouring of the flowers. This grand strain also retains the delightful perfume of the old English Cowslips. The Munstead strain of white and yellow shades is also very choice and showy, the blooms and trusses being large and fine. It is well to raise a batch each year of these fine strains, as there is a tendency to deteriorate after the plants have bloomed twice.

Aquilegias.—The Long-spurred forms are very beautiful and useful for table decoration. Dobbie's strain of this fine plant is the best I have yet come across. The colours are not only varied, but most delicate and pleasing. Seed should be sown annually, as these fine hybrid strains do not usually live long.

Nemesias.—To Messrs. Sutton we are indebted for the introduction of this, our finest dwarf annual plant. Sutton's strains of both the original large-flowered type and the dwarf hybrid kind, with smaller flowers, are still the finest we have yet seen, and annually give a gorgeous display. Personally, I much prefer the dwarf hybrid type, which Messrs. Sutton have of late years brought to great perfection. Few plants give a more delightful range of beautiful colours, while the free-growing and profuse-blooming qualities of the plants are above praise.

Antirrhinums.—This is another almost indispensable plant nowadays, and as the range of colours now available in separate packets is very large, everyone's taste is catered for. Here we prefer the intermediate type, and grow quite a number of colours each year. The best are usually Barr's Queen of the North, Barr's Yellow, Sunset, Sutton's Deep Crimson and Sutton's Orange King. Antirrhinums seldom come entirely true from seed.

Pentstemons.—A wonderful improvement has taken place in these noble plants of late years. Colours are now much brighter and varied than formerly, and a grand display can be had by massing in colours, or by having large mixed beds or borders. Here we like the lovely pink Daydream, raised by Mr. Hay while at Hopetoun, and Preston Hall Seedling, which is larger and deeper in colour than Newbury Gem, from which, I think, it was a seedling. Myddelton Gem is also very fine, as are Lady Mary Hope and Lord Charles Hope. George Holmes and White Giant are grand, but I lost both through drought two years ago.

Giant Daisies.—Sutton's strain of these is superb, the blooms when well grown being as large as bouquet Asters. The flowers are borne on long, stiff stems, so for cut flowers they are admirable.

Sweet Peas.—These thrive exceedingly well. We grow about thirty good named sorts each year. Favourites are Edrom Beauty, Dobbie's Sunproof Crimson, Isobel Malcolm, John Ingman, Etta Dyke, The Marquis, Red Star, Lady Miller, Constance Oliver, W. P. Wright, Asta Ohn, Helen Lewis, Nubian, Othello, Apple Blossom Spencer, Vermilion Brilliant and Hercules.

Roses.—These are quite a speciality, our collection comprising at least 150 varieties. We annually add some of the newer introductions, but a good many of these have had to be dispensed with for various reasons. The chief favourites grown in quantity are General Macarthur, Mme. Ravary, M. Paul Lede, Mme. Melanie Soupert, Lady Ashtown, Hugh Dickson, Mrs. John Laing, Gustav Grunerwald, Liberty, Caroline Testout, Viscountess Folkestone, Lyons Rose and Mrs. David McKee.

Herbaceous and Alpine Plants.—Of these we cultivate a large number of kinds, but space forbids my going into the names of these. I may say, however, that both old favourites and up-to-date varieties are well represented.

Fruit.—This is not a fruit district in a general sense, but a few kinds do remarkably well. Of Apples, Warner's King and James Grieve are the best. Pear Louise Bonne of Jersey is the only one that does much good. Black and Red Currants are always very fine. Raspberry Superlative is always grand, both in size and quantity. Of Strawberries, Laxton's Leader is invariably the best, carrying a very heavy crop of large fruits.

Vegetables.—These thrive well, for the most part, on our rich, heavy soil. Of Peas we grow a very large quantity, the following varieties being always dependable: The Pilot, Early Bountiful, Senator (a grand Pea), Glory of Devon, Carter's Daisy, The Lincoln, Dreadnought, Superlative, Royal Salute (the best late Pea) and The Gladstone. Cauliflower is always good, Sutton's Magnum Bonum, Sutton's Favourite and Veitch's Autumn Giant being the best. Sutton's Favourite is the best Cauliflower I know. Brussels Sprouts are greatly in demand, Dickson's Newtownards Gem being by far the best. Of Cabbages, Sutton's Flower of Spring for autumn sowing and Sutton's Favourite for spring sowing are unsurpassed. Lettuces of first-rate quality are always appreciated, and after many trials I can find nothing to equal Carter's Holborn Standard and New York Giant. The former for earliest sowing is superb, and stands a very long time before bolting. New York Giant is a grand summer Lettuce, for, notwithstanding its huge size, it has never the least sign of coarseness. Tomatoes are always in demand, and we endeavour to keep up supplies for as long a season as possible. Laird's Supreme is still the best here, but Freedom, an American variety, is also very fine. Other varieties we always grow and which succeed very well are Stirling Castle, Carter's Sunrise, Sutton's Earliest and Magnus. The last named is the finest flavoured of all Tomatoes and a large, handsome fruit. It is of American origin.

Indoor Flowers.—Sutton's Dwarf Hybrid Schizanthus is excellent, the colours being so beautiful and varied and the flowers of such a fine size. This strain is a most profuse bloomer. Cyclamen Sutton's Giant and Sutton's Prize are always magnificent. This year they flowered for five months. We treat these as biennials. Primula obconica gigantea (Barr's strain) is by far the finest I have seen anywhere. Plants that started to bloom in December are still at this date (June 3) wonderfully fresh and bright. Ware's double and single tuberous-rooted Begonias are grown in quantity and are always greatly admired. The double kinds from a packet of seed are truly superb. Space forbids mention of other plants grown under glass.

Preston House, Linlithgow. C. Blair.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* Editor *of* The Garden, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

SWEET PEAS DAMAGED (*R. H. H.*).—The specimens of Sweet Peas sent were too far gone to enable us even to guess what was the source of the trouble; but we should think that, in all probability, slugs are to blame, and we imagine careful search with a lantern after dark would be likely to reveal them. Potassium permanganate in strong solution is excellent against these pests.

PHLOX AND EELWORM (*Carlisle*).—The Phlox is badly attacked by the stem eelworm. When once a plant is attacked there is no cure, and no attacked plants should be used for propagation purposes. It would be better not to plant Phlox on the infested ground, nor to plant things liable to attack, such as bulbs and the like. The soil should have a dressing of sulphate of potash (at the rate of 1cwt. to 2cwt. to the acre) in the spring, or kainit (at the rate of 4cwt. to 6cwt. to the acre) in the autumn. Infested parts of plants should be removed and burnt.

LILIES DISEASED (*E. L.*).—We can only say of your Lilies that it is one of the worst examples of the Lily fungus we have seen. The only thing to do is to gather up and burn at once every vestige of it. Indeed, it would be better to dig up and burn the bulbs also, and give the garden a complete rest from Lilies in general for two or three years. The Tulips will not be suffering from this disease, but from another peculiar to its own tribe. In their case also collect and burn all evidence of the disease, and later, when you lift the bulbs for drying, dust them lightly with sulphur. In replanting, give them a fresh site and, if possible, fresh soil also.

IRIS AND NARCISSUS BULBS ATTACKED (*E. F. C.*).—The Iris bulbs are attacked by the bulb mite (Rhizoglyphus Echinopus), and the Narcissus bulb by that pest and the small Narcissus fly in addition. Either the soil is badly infested with the former pest, or the bulbs were already attacked when they were planted.

LUPINES AND IRIS (*Bromsgrove Reader*).—Lupines are often attacked in the way you describe, and sometimes a sort of root-rot occurs that produces the trouble. In any case, the cause of the bud-dropping lies at the root of the plant. It may be drought or even insects attacking the plant there. The Iris pallida varieties are often dilatory in coming into flower. Give them another year. We presume they are in full sun, with the rhizomes on the surface.

VIOLET RUST (*A. W.*).—The fungus on the Viola is Puccinia violæ, the Violet rust. This early, cup-like stage is followed by brown spore masses, and late in the autumn by black spores which carry the disease over the winter. The fungus very commonly attacks the wild Violet, but it does not attack other plants than those belonging to the genus Viola. If it is only in a small quantity, root it out and destroy it immediately. If there is much, begin with a fresh stock of plants in another place next year.

IS LABURNUM POISONOUS TO PLANTS? (*W. W. W.*).—So far as our observation goes, we have never noticed any more serious results from planting beneath Laburnum trees than from planting beneath any other kinds of trees. As a rule, plants of herbaceous character fail to do themselves justice when planted beneath trees, partly by reason of the tree roots impoverishing the soil, partly by drought, and partly by shade, some trees, of course, having a more serious effect than others upon the undergrowth. We imagine that it can only be a case for further experiments. Perhaps there is something wrong with the working of your soil.

ASTERS FAILING SUDDENLY (*J. H.*).—The sudden failing of the German Asters has been attributed to many different causes, white worms, eelworms and fungi, and no doubt all of them are responsible at different times for the trouble, but it is, in all probability, generally due to the attack of a species of Fusarium. This fungus rests in the soil, and attacks first the root, then the stem, the water-vessels of which it fills up so that no flow of water is possible, the leaves thus rapidly wilting. There is another soil fungus, at times causing root-rot, responsible for the trouble, and in both cases the need for avoiding planting in places where the disease has previously been is one to be borne in mind. Probably thorough liming of the soil and the sterilisation by steam of the soil used for sowing the seed in would reduce the attack very considerably.

FATSIA JAPONICA (*Headingley*).—The name of the plant of which a leaf was enclosed is Fatsia japonica, often known as Aralia Sieboldii. It is sometimes, but quite erroneously, termed the Castor Oil Plant, the true Castor Oil Plant being a totally different subject. Your plant is but following its usual habit, that is, as the new growth develops, the mature leaves on the lower part of the stem drop off. You can, if you like, cut your plant back to within 9 inches or a foot of the pot, when it will in time break out again. If you just pinch the top off, you will still have the bare stem, as it will push out from the upper portion. There is yet another way in which your Fatsia may be dealt with, and that, provided you have a sheltered spot in the garden, will perhaps give you as much satisfaction as any. This is to plant it outside and obtain a young specimen for your window. In the neighbourhood of London, Fatsia japonica is a valuable evergreen shrub, and as hardy as the common Laurel. Even in your colder climate it should succeed if planted in a sheltered spot. Once established out of doors, it will push out shoots from the base and in time form an effective specimen. Young plants suitable for your window can be purchased at a comparatively cheap rate.

THE GREENHOUSE.

GESNERAS (*Lyndhurst*).—As your Gesneras are good, sturdy plants and only 2 inches or 3 inches high, we do not consider that there would be any harm in dividing them now and repotting singly into 4½-inch pots. Of course, it is most essential that the roots should be disturbed as little as possible, and the plants kept rather closer than usual and well shaded till the roots take possession of the new soil. Some Gesneras are much more vigorous than others, and need increased root room; but, generally speaking, 6-inch pots should be large enough to allow three plants to give of their best. The very strongest may, if you wish, be put into larger pots; but as you seem inclined to divide, we should not, as above stated, dissuade you from doing so. In the culture of Gesneras, as in many of their allies, it should be borne in mind that they are greatly benefited by a free use of vegetable matter in the compost, and this, if possible, should be in the form of good, well-decayed leaf-mould. A mixture of two parts loam to one part leaf-mould and a liberal sprinkling of silver sand is very suitable for this class of plants.

ROSE GARDEN.

RAMBLERS FOR BUDDING (*J. B.*).—The lateral shoots would do very well, and, if strong, would make no difference to the future growth of the budded plants, but we should prefer a nice, strong, young growth. There are better white ramblers now than White Dorothy, for it is not pure white. Try Schneeball or Lady Blanche.

ROSES WITH GREEN CENTRES (*Helensburgh*).—The hard, green centres are usually regarded as the effect of a sudden check to growth just when the buds are forming. No preventive measures, beyond planting where the bushes are screened from north and east winds, are known. It is impossible to name Roses from malformed specimens such as these.

ROSES FOR BIG BUSHES IN ABERDEENSHIRE (*D. D. D.*).—You would find the following excellent for your purpose: J. B. Clark, Hugh Dickson, Mrs. Stewart Clark, Zepherin Drouhin, Dr. O'Donel Browne, Johanna Sebus, Reine Marie Henriette, M. Desir, Conrad F. Meyer, Nova Zembla, Sarah Bernhardt, Cheshunt Hybrid, Juliet, Climbing Lady Ashtown, Maharajah, Ulrich Brunner, Frau Karl Druschki, Mrs. John Laing, Paul Neyron and Boule de Neige. All these should be hardy with you.

FRUIT GARDEN.

SPOTS ON MELONS (*Oron*).—There is no fungus present to account for the trouble with the Melons. Have they been knocked or damaged while young? The bitter flavour is probably due to imperfect ripening.

A PREVALENT DISEASE IN APPLES (*J. C.*).—The Apples seem to be affected with the brown rot fungus Monilia (or Sclerotinia) fructigena. This disease is rather prevalent this season, and it would be well to spray with Bordeaux mixture, half the strength usually used for spraying Potatoes.

FLIES ON PEAR TREES (*E. H. S.*).—We do not think the insects sent, which are species of Psocideæ, are likely to do much, if any, damage to the trees. They feed on dead matter, and disliking light are apt to travel in cracks in the bark. It appears there is much Pear scab on your trees, and this is destroying the spurs. Cut out all dead and dying wood, and spray with Bordeaux mixture.

SIDE SHOOTS OF PLUM TREES (*In Doubt*).—Yes, in the case of trees growing in gardens where the space is more or less restricted, unless a shoot is required to fill up a gap in the tree, the side shoots should be pinched back. In the latter case they should be allowed to grow unrestricted during the summer, pruning them back to half their length at the winter pruning. If the standard trees are growing in an orchard where ample space is provided, summer pruning is not necessary.

MILDEW ON VINES (*J. Brown and A Lincolnshire Man*).—On the first appearance of the white patches of mildew on the upper surface of the leaves, spray every part of the stem and leaves with a solution of 1oz. of potassium sulphide to three gallons of water. Repeat this frequently while the Vine is still affected. As a preventive it is desirable to spray before the mildew appears, especially if it has been prevalent during the previous year. To ensure the destruction of the hibernating mycelium during the winter, when the Vine is resting, the trunk and branches should be thoroughly washed with a solution of 1lb. of sulphate of copper dissolved in twenty-five gallons of water.

NECTARINES SHRIVELLING (*Anxious*).—Please see next answer to "H. S. O." below *re* Peaches dropping. If we were you we would give the old trees another chance, especially as you have had them under your care for so short a time. Old trees, even very old ones, bear grand crops when well looked after, and the fruit is usually of better flavour and quality than from younger trees. We would partly lift the roots this autumn (not merely top-dressing), and then give them a new body of soil to root into. Let the trees start naturally next year without any forcing, and in preparing the soil for the border do not forget to apply some bone-meal, say, three pints to a good barrow-load of the compost, and a liberal sprinkling of lime.

PEACHES DROPPING (*H. S. O.*).—The cause generally of Peaches dropping when the size of Hazel Nuts is imperfect fertilisation of the blossom. If you cut a fruit open you will find that the stone is diseased. Imperfect fertilisation may be brought about by many causes, as follows: The want of vigour and strength in the trees, and consequently in the flowers; the scarcity of pollen in the latter; dull, cold weather, and a damp, close atmosphere while the trees are in bloom. The best way of preventing this in future is to add new turfy soil to the roots of the trees in autumn, to water the trees several times in the course of the winter and autumn, and to take special care that the trees have abundance of air when they are in bloom, both day and night, while the weather is favourable. The flowers should also be artificially fertilised on dry, warm days by the aid of a rabbit's tail, drawing it gently over the pollen on the stamens of the flowers and applying to the stigma or centre tiny column of the flower. This is a simple and small matter, but it needs care and diligence in carrying it out.

MILDEW ON VINES (*W. B.*).—It may be that the Vine border and the general system of culture of the Vine in the past is at fault, and therefore, in a measure, the cause of the attack of mildew. For, without good and proper soil for the roots to flourish in, and intelligent culture in the way of generous watering, careful ventilation and the provision of a healthy atmosphere for the Vines to grow in, they soon become a prey to this and other diseases by reason of the weak and poor growth they make. However, if this is so, the remedy cannot be applied in the case of the border until autumn, but the careful management of the Vine in other ways as suggested above should be seen to at once. The best thing you can do now is to apply the same remedy as you applied before. The sulphur should be applied to the hot-water pipes in the evening of a damp, calm day, and repeated the second evening if the first application is not effective. Be careful to apply front air sparingly in cold weather, because cold draughts are often the cause of an attack of mildew. The Grapes on the Vine you speak of (as per sample sent) are evidently badly affected. We should cut the worst of them out, and give the others a better chance of setting and finishing off.

KITCHEN GARDEN.

SEAKALE (*Miss B. C.*).—You can do no good by transplanting your Seakale now. Leave it until the winter time, then dig it up, keep the stronger crowns for forcing, and cut up the rest of the fleshy roots into sections 4 inches to 5 inches long, taking care to keep the upper parts in the same direction for convenience of planting. Plant the root sections in good deep soil which has been well worked and afterwards made fairly firm. As a rule the pieces should be placed in rows 2 feet apart, and 1½ feet apart in the rows. One year should suffice to form crowns large enough for forcing. It is of no use, however, planting Seakale in poor soil, as it never develops satisfactorily.

MISCELLANEOUS.

SAMPLE OF SOIL (*G. W. R.*).—We found nothing amiss with the soil, and could see nothing of the black substance of which you speak. It is quite likely to be a jelly-like growth which dries up and practically disappears when dry; but perhaps you could send us a little of the substance itself.

FLIES FOR IDENTIFICATION (*R. S. C.*).—The flies sent are allied to Merodon equestris, but do not belong to that species. They are hover flies, called Eristalis tenax and E. arbustorum, and the larvæ of the former are the well-known rat-tailed maggots that live in the filth at the bottom of the gutters, sewers and dirty ditches. Merodon varies greatly in colour, but is usually foxy brown and very hairy. The shrill notes caused by its flight and its darting habit make it readily distinguishable when on the wing.

DESTROYING THE MOLE CRICKET (*G. T.*).—Probably the best method of destroying mole crickets is to inject carbon bisulphide into the soil in which they live, at the rate of about half an ounce to the square yard. Phospho Nicotyl has been found useful for destroying these insects in Jersey and Guernsey. Traps in the form of tubes of earthenware or wood, baited with some substance the pest likes and allowing entrance but not exit, may be buried in the soil, many of the pests being trapped like that and destroyed by dropping them into a pail containing paraffin.

WASH FOR CONIFERS (*F. R. D.*).—A wash which has been found successful for the treatment of Spruce trees affected by the Pine-apple gall is made by mixing six pints of paraffin, 1½lb. of soft soap and thirty-six gallons of water together, and using it in the form of a spray. It is essential that the soft soap and paraffin should be thoroughly mixed, and to ensure this it is advisable to dissolve the soft soap in one gallon of boiling water. While this is warm, add the paraffin and keep the mixture well stirred until a creamy liquid is formed; pour into the remaining water, mix well, and use either through a self-mixing spraying-machine or a syringe. In the case of the latter, put a syringeful back into the vessel now and then in order to keep the wash well agitated, so that there is no possibility of the paraffin separating from the soft soap. From the end of April to the end of June is the most efficacious period for the use of the wash, for it is at that time the insects are most active. It is a good plan to use the wash about once every ten or fourteen days on badly-affected trees.

NAMES OF PLANTS. — *Rustic.* — Rose Thalia. —— *A. E. T.*—1, Comtesse F. Hamilton; 2, Comtesse de Breteuil; 3, M Desir. —— *C. F.* — Commander Jules Gravereaux.——*N M. Roxby.*—We believe the white is Bennett's Seedling, and the pink an old variety of Rosa gallica or one of the very old Damask Roses.——*J. B., Clapham Common.*—Centranthus ruber alba ——*C. B. B.*—Sisyrinchium augustifolium.——*Mrs. H. E. S. U.*—Cynoglossum Wallichii.——*Mrs. F. H. Curtis.* — Escallonia punctata. —— *Mrs. F. A. H.*—White Poplar (Populus albus).——*K. D., Scalby.*—Pittosporum tenuifolium. —— *B. N., Cheshire.*—Abutilon vitifolium (shrub), Cynoglossum furcatum (perennial).——*G. C.*—Gilia macrantha.—— *C. F.*—1, Lilium pyrenaicum; 2, Gesnera cardinalis.

THE EDITOR'S TABLE.

Sweet Peas from Cambridgeshire.—Mr. H. W. Churchman, Sawston, Cambs, sends flowers of two seedling Sweet Peas. The variety Alfred Challis is a pale silvery grey flower with pale blue veinings, while Connie Ellis Improved is a dark variety, the standard being bluish maroon and the wings almost purple. Mr. Churchman writes: "I am sending you just a few of my Sweet Peas as growing for seed on poor soil. The marbled one is Alfred Challis, the dark one Connie Ellis Improved. I think these two good ones. The dark one requires shading lightly during the hottest sun."

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Cutting Dead Blooms Off Roses.—We would remind readers that all blooms as soon as they have faded, or most of the petals have dropped, should be cut off the bushes. We prefer to cut down close to the first plump wood-bud. This assists in the formation of new shoots, on which we rely for our autumn flowers. If the soil can be given a good soaking with water and subsequently mulched with some short manure, the bushes will be assisted materially.

Morello Cherries.—The fruit is borne on the previous season's wood much in the same way as the Peach, and, like it, a sufficient supply of the current year's shoots should be laid in for supplying the crop next season. Only as much of the young wood should be retained as can be thoroughly ripened without unduly shading the current crop and foliage borne on the old wood. Superfluous shoots should be cut away with a very sharp knife, or gumming may ensue.

Endowment for Education in Gardening.—The outgoing Master of the Gardeners' Company is proposing, as an additional proof of his great regard for the Guild and for the interests of gardening, to offer a substantial sum to the President of the Board of Agriculture as an endowment for the cause of technical education in gardening. Certain conditions will be attached, the chief of which will be that the name of the Worshipful Company of Gardeners should be for ever associated with the gift.

Early Forced Figs.—Fig trees are accommodating, in that they produce more than one crop in the course of the year. At this season early forced Figs are swelling their second crop, and due attention must be paid to watering and feeding. If in pots, they will need looking over two or three times a day, and those planted out will probably need a good soaking once a week. Very little fire-heat is necessary now, but damping should be curtailed somewhat towards the evening.

Gooseberry Branches Diseased.—At a recent meeting of the scientific committee of the Royal Horticultural Society several specimens of Gooseberry branches were shown. They had died suddenly after starting into growth. This trouble with Gooseberries is usually due to the attack of the fungus Botryosphæria ribesii. It is best to remove and burn the affected branches as soon as they are discovered, not allowing them to remain until the autumn. The branches should be cut away close to their origin, as the fungus fruits near to the base of the affected shoots.

Roses in the City of London.—It was with considerable interest that we visited the first exhibition held by the newly-formed City of London Rose Society in the Cannon Street Hotel on the 26th ult. Knowing as we do the enthusiasm for Roses that exists among City workers, we expected to see a good show, but were not prepared for the magnificent display that Mr. Prothero and his committee had got together. The blooms were in many cases superb, and they were there in their thousands, well staged and well arranged. The society, which thus creates friendly rivalry among City workers, deserves every encouragement. An abridged report of the show, which was opened by the Lord Mayor, who is president of the society, will be found on another page.

Staking Dahlias.—If not already staked and tied Dahlias should be attended to at once. Those intended for exhibition should have the central growth pinched out, selecting four shoots from the resulting breaks, and tying each to a stake, sloping them in an outward direction so as to admit as much light and air as possible to the centre of the plants. At present only sufficient water need be given to prevent the plants from flagging, but when coming into flower they should not be stunted in this respect. Traps must be set for earwigs, looking over them daily so as to rid the plants of these pests as quickly as possible.

An Interesting Flowering Shrub.—Sophora viciifolia is a showy and interesting Chinese shrub which blossoms freely during the latter part of May or early June. In the open ground it grows quite 6 feet high, while against a wall that height is doubled. The dainty green leaves are made up of numerous tiny leaflets, and from the axils of the leaves the short racemes of white, violet-tinged flowers appear. It is perfectly hardy and thrives in loamy soil, single plants growing in the open assuming a diameter of 8 feet or more. Seeds are produced freely and form a certain means of increase, although cuttings may also be rooted. It is one of those plants which dislike root disturbance.

Help for Aged and Infirm Gardeners.—On another page we publish particulars of the annual festival dinner in connection with the Gardeners' Royal Benevolent Institution, and we give prominence to it here because of the excellent work that it has done and is still doing. This charity, which has been founded over seventy years, provides pensions for aged or infirm gardeners, or the widows of gardeners, and we know that it is run on the most economical lines and that every penny subscribed goes to the relief of those who, through no fault of their own, have fallen on evil days. Our British gardens are admittedly the finest in the world, and now that they are at the height of their summer beauty and we are enjoying the beautiful flowers and luscious fruits that they produce, we urgently appeal to our readers to spare a little thought and money to those who have helped, directly or indirectly, to make our gardens what they are. A sovereign to these poor old people is a little fortune—so much to them and so little to many of our readers. Who will help? The secretary is Mr. G. Ingram, 92, Victoria Street, Westminster, and all subscriptions should be sent to him. We shall be glad to learn that our appeal to readers has not been in vain.

CORRESPONDENCE.

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

Pruning Scotch Roses.—This is the best time to prune large, thickly-furnished bushes of these early and sweet Roses. The pruning consists in cutting out the oldest of the shoots, so that younger ones, which are the more floriferous, may have ample space during the rest of the season. Young plants may be left till autumn and then slightly pruned in a similar manner; but neither young nor old plants should be severely thinned, otherwise they will become straggly, and to enable them to regain their former stiffness a number of growths have to be cut back. By the way, how badly Banksia Roses have done! Where we had long trails by the dozen last year, this year there have not been a dozen blooms in all.—R. P. BROTHERSTON.

Puya chilensis Flowering at Cambridge.—This interesting plant of the Pineapple family, concerning which a note was published in these columns on March 1, page 102, when mention was made of it coming into bloom, is now flowering and bearing a huge spike about six feet high, with an inflorescence 2 feet 5 inches by 1 foot 2 inches wide, in the form of a dense, rhomboid panicle, with racemose branches, which are densely crowded with flowers of a pale greenish yellow. During the whole time, the spike has grown on an average 3 inches per week until it reached the above height, after which it commenced to open its flowers. The plant, as mentioned in a previous issue, is an exceptionally fine specimen, the complete plant now measuring 9 feet 7 inches in height and 8 feet 2 inches in width. The side growths are developing into fine rosettes, and will soon form a huge mass, replacing the main crown, which will undoubtedly die when the flower is gone. It is a native of the Northern Provinces of Chili, where the stem is used for corks and bungs, and the hard hooks on the leaves are used by the Indians for fish-hooks, being well adapted for that purpose. An excellent life-size painting of this plant may be seen in the North Gallery in the Royal Gardens, Kew.—F. G. PRESTON.

Scent in Flowers.—May I gently enquire the wherefore of your charming correspondent "Anne Amateur's" aspersion upon American gardening taste as set forth in these words in her vivacious and otherwise delightful contribution to your columns on scent in flowers, page 275, issue May 31: "The American craze for mere size and conspicuous colours"? Will "Anne Amateur" be kind enough to give chapter and verse for this accusation? It may be that when her words met my eye I was in an over-sensitive state of mind, for I recall the fact that at that very moment I was engaged in comparing the delicious odour of one of the commoner garden Pinks with that of Dianthus hybridus Dr. Mules. Unlike Lamb and the modern florist, I own to the possession of a nose — and an *ear*, too, "Anne Amateur" may think!—LOUISA KING. *Orchard House, Alma, Michigan.*

A Beautiful Floral Combination.—In the course of some changes in the garden last autumn, I had the idea to plant that exquisite Rose Jersey Beauty in association with Spanish Irises of a good strain which I had seen at Mr. Bull's at Ramsgate the previous June. The result is a really charming bed. The Rose, as many of your readers will know, is of pronounced rambling habit and of vigorous growth. The flowers are huge singles of a creamy hue. The Irises, spearing up between the shoots of the Roses, form some delicious blends of colour. Inasmuch as the site of this bed had been nothing but a rough chalk bank covered with coarse, tussocky turf, I may perhaps be pardoned when I say that I view the transformation with pride. I may add, for what it is worth, that the plan is not only very beautiful, but quite inexpensive.—W. P. W.

THIS FINE SPECIMEN OF PUYA CHILENSIS IS NOW FLOWERING IN THE CAMBRIDGE BOTANIC GARDENS.

The Double Sweet Rockets.—To supplement the paragraph in THE GARDEN of June 21, page 309, I wish to draw attention to the fact that there are two different whites, one much more free than the other, and much more loose in the habit of the flowering stems. There is also a rich purple variety, which I once possessed, having got a small plant from a celebrated gardener in the North of Ireland, who, alas! has, with many other good pioneers, now passed away. If any reader of this note can inform me where this rare plant is to be obtained, I shall be very grateful. I always impress on those to whom I give this double white the imperative necessity of cutting down close to the ground, say, 1½ inches, all the blooming stems when they cease to be decorative; this ensures a good growth of vigorous young shoots, which, when about two inches long, can be planted by digging up and separating the rootstock with them attached, and thereby a large increase effected. Another increase is also possible in planting a portion—the lower for choice—of these blooming stems when cut off; for I saw last week, in the excellent garden of a relative of mine, fine young plants in bloom which last summer were the cuttings I refer to.—J. HILL POE (Captain D.L.), *Riverston, Nenagh, Ireland.*

A GARDEN.

Not alone to me and mine
  Raptures in my garden spring,
Where the robes of Summer shine,
  Rich from her embroidering,
And her gentle movement frees
Fragrance to invest the breeze.

Not on human sense alone
  From the garden flows delight:
Birds their gladness clearly own;
  Chant the bees in buoyant flight;
Butterflies make of their dance
Pleasure's perfect utterance.

Yet in yielding thus, to these
  Visitants of airy wing,
Bliss that thrills to ecstasies,
  Joy that stirs to revelling,
Wins my garden all their glee
For an added charm to me.

JAMES CARTWRIGHT.

Pink Gloriosa.—I am entirely in agreement with the writer of the "Note of the Week" in the issue for June 21 regarding the beauty of this Pink. Unlike your correspondent "C. A. G.," I have, however, had no cause to complain of its hardiness during the two winters it has been in my garden. It (the garden) is situated to the South-West of London, and faces south-east. The soil is of a stiff, adhesive nature, and, of course, cold during the winter; but, despite this, the Pink Gloriosa has done well. There is, however, I find, one drawback to its successful culture, at least in my garden, and that is the sparrows are fonder of the leaves of that variety than of any other Pink or border Carnation. Whether this is the general experience I cannot say. Of course, by a judicious use of black thread these cheeky little birds may be kept off; but they first found out the tastiness of the leaves when I was confined indoors for a few days, and on going out in the garden the damage was at once apparent, when I immediately took steps to prevent it.—H. P.

Delphinium Queen Mary.—When in Messrs. Bunyard's nurseries at Maidstone recently, I was struck with a new perennial Larkspur named Queen Mary. It is a beautiful shade of peacock blue, with a clear, creamy eye. I admired particularly the even disposition of the flowers on the stem, the whole forming a splendid Hyacinth-like truss.—W. P.

Forget-me-not.—There is a note about this (page 311), but I do not understand what is meant by "common." The true species is Myosotis palustris. Here we have masses of M. sylvatica growing in grass, which are very pretty, and among them the white variety is not at all unusual.—R. P. BROTHERSTON, *Prestonkirk, N.B.*

Forget-me-not and Lithospermum prostratum. Myosotis sylvatica, the common Forget-me-not, is, as one of your correspondents writes on page 311, issue June 21, very pretty in combination with Woodruff and other white flowers, but it is surpassed by the variety dissitiflora, which is dwarfer and has much larger flowers. This in a mild spring comes into bloom in March, and though liable to be blackened at that time by frost, as it was this year, it soon recovers and flowers again. It is still in bloom (June 22). The shelter of shrubs is a great help to M. dissitiflora. Lithospermum prostratum in its native home in the Lower Pyrenees, where it goes by the name of the Frontier Flower, is quite the equal of Gentiana acaulis in colour. The flowers there are larger than the annual blue Lobelia, and have the two advantages over the Gentian in continuing to open all day in cloud or sunshine and in blooming for several months instead of weeks. Unfortunately, it does not succeed well with me, though grown with peat moss, granite sand and leaf-mould, our natural soil—limestone—being poison to it.—J. H. THOMAS.

Express Rockery Planting.—As one who has been engaged during the past season in making rockeries, I was deeply interested in the illustration of Mr. Bilney's new rockery on page 313 of June 21 issue. Although it is not mentioned in the notes, I think I can safely say that the two most important factors in Mr. Bilney's success were thorough preparation of the soil and the planting of several specimens of each kind. In rockery-making it is a common mistake to pay a great deal of attention to, and spend most of the money available on, the stones, with the result that plants are skimped. I am often tempted to think, after seeing some specimens of rockwork, that the best way of going to work is to put in the plants before a single stone is laid. It sounds ridiculous, but at least it would prevent many such miserable, over-starved examples as we now see. From half-a-dozen to a dozen plants set in a colony soon spread out into a glorious clump.—W. P. W.

FORTHCOMING EVENTS.

July 8.—Flower Shows at Wolverhampton (three days), Royal Scottish Arboricultural at Paisley (four days), and Baltic Rose and Sweet Pea Society at Merchants' Hall, E.C.

July 9.—Flower Shows at Saltaire, Bath (two days), Beckenham, Elstree, Dover and Formby. East Anglian Horticultural Club Meeting.

July 10.—Flower Shows at Newmarket, Malvern, Potter's Bar, Finchley, Snaith, Maidenhead and Aylesbury. West of Scotland Rosarians' Society at Helensburgh.

July 11.—Manchester Rose and Summer Show.

July 12.—Flower Shows at Wood Green, Trowbridge and Steeton.

THE FLOWER GARDEN.

THE LONG-SPURRED COLUMBINE AND ITS CULTIVATION.

AMONG the hardy border flowers which have engrossed the careful attention of several of our leading growers during the past few years, the Aquilegia takes a prominent place and is deservedly becoming popular, and, together with the Antirrhinum, will for many years to come reign as one of the queens of the hardy flower border. To those unacquainted with the vast progress made by the hybridisers during recent years in converting the old-fashioned Columbine, with its compact flowers of sombre colour and little variety, into the gorgeous varieties known as the Long-spurred Aquilegia, the magnificent collections of blossoms shown by several firms of repute at the recent spring shows came as a startling revelation. Some of the blossoms were regal in form and colour, and no praise can be too high for this elegant genus of plants.

They are all hardy perennials, and are most accommodating, growing equally well in the rockery as in the hardy flower border. As the result of careful selection and hybridising, the Long-spurred Aquilegia, or Columbine, has been raised to a very high level of perfection, and contains some charming colours in almost every conceivable variety. Some magnificent named sorts are on the market; but, except for a definite purpose, such as grouping for colour, it is not absolutely necessary to grow them for the ordinary border display. Plants raised from seed, which can be obtained from several leading firms who have specialised in this genus of plants, will supply the commoner need, besides adding interest to the grower who may be fortunate enough to raise a finer variety than yet exists. At any rate, the various and delicately-tinted flowers amply repay the necessary care required in raising them.

Cultivation.—Seed should be sown very thinly in fine sandy soil in a cool house or frame in spring, and when large enough the seedlings should be pricked off on to a prepared border of good soil containing a large percentage of sand. In the early autumn these plants can be transplanted to their permanent quarters; and this process is often the cause of the failure of some of the plants to weather the winter. One of the complaints against the Long-spurred Aquilegia is that it will not stand our winter. As above stated, the Aquilegia is a hardy perennial, and the prime causes of the loss of plants are lack of drainage and badly-prepared beds. The seedlings have had liberal treatment, bordering perhaps on the tender side, during the pleasant warmth of summer, and often they are transplanted into a sour, water-logged border and left to battle against the adverse conditions of an inclement winter. Little wonder that the majority of the plants succumb! Provide well dug and drained permanent quarters for your plants, transplant them from the bed without unduly injuring the root ball, give them the necessary care that they may be firmly established before the winter sets in, keep the surface soil friable and free from weeds, and your losses will be nil, or nearly so. In the following May and June the beds will repay this attention with abundant blossoms. After flowering, the plants should be pruned of their dead flower-stalks, the soil well hoed, and new growth will be made, as the plants improve yearly and need not be lifted for many years.

One of the most magnificent displays of blossoms the writer has seen this spring was a border of Aquilegias five years old, which had received treatment as here described. Aquilegias grown in clumps are most effective, and can be used advantageously for colour effects with named varieties, and, given the right surroundings, are unsurpassed in elegance and beauty. Recently the writer saw an arrangement of Aquilegias which might well be adopted by lovers of these plants. Seen under the rays of a golden setting sun, the sight almost baffled description. Two varieties, cærulea hybrida and superba, were massed in opposite beds 20 feet by 6 feet and flanking a sunken lawn. The first-named variety is a graceful form, bearing large flowers, the centre clear yellow, with spurs and sepals blue. The latter—superba—is a specially good long-spurred variety, with centre petals bright yellow, and spurs and sepals bright orange red. Some 20 feet of grass, in the centre of which was a small, circular bed of Viola White Purity, separated two similar beds, also filled with Aquilegias, in the one Skinneri, scarlet, tipped with yellow, and in the other a long-spurred white one which the gardener had raised himself. The contrast between the brilliance of superba and the elegance of the white variety, also the vivid colouring of Skinneri and the alluring delicacy of the pale blue of cærulea hybrida, had to be seen to be fully appreciated. In the same garden were beds of seedlings just flowering, and some excellent forms were to be seen; six varieties stood out as quite distinct.

The rockery, though small, also emphasised the usefulness of the Aquilegia for rockwork, as some fine clumps, three years old, were carrying masses of beautiful blossoms, all, I was assured, the choicest of former years' seedlings. Truly, then, does the Long-spurred Aquilegia vie with the Snapdragon in growing popularity, and should be more generally grown on account of its usefulness in the rockery and the border, and also for the fact that the flowers will last in water several days when cut. S. W.

SWEET PEA NOTES.

The Trials.—If groups of trials of scores of varieties are of real value to the growers of the world, the benefits this year ought to be twice as valuable as they were last year, since the National Trials are growing on the strong soil at Burbage in Leicestershire, and the International Trials at Reading, where the soil is decidedly on the light side. If the varieties were duplicated, which, I am led to believe, is not the case, some curious differences in behaviour would be apparent, for there is no question that they vary widely with the ground and to some degree with the climate in which they are growing. In a season or two, perhaps, we shall see these two fancied rivals in association, with sweetness in the camp if not in the perfume of many of the modern flowers. There is only room for one authority on Sweet Peas in this country, and the court should be the National Sweet Pea Society now, as it has been for a dozen years or more, but it must proceed on the best and cleanest lines.

The Shows.—The fights have started in many parts of the country, and some splendid flowers have been staged; but the giants will not join issue for a further fortnight, when they will gather at Vincent Square and later at Carlisle. I am

wishful that some of the younger enthusiasts should step in to show the old stagers that the world is not wholly theirs; but the new-comers will have to gird up their loins and stage quality. Speaking of quality reminds me that it will not be out of place to urge the claims of the real Sweet Pea, and to suggest that the coarse monstrosities should go to the wall. Novices are warned that flowers cut twenty-four hours before they are required, and placed instantly in water in a cool cellar where the temperature is quite steady, will serve them better than those cut an hour or so before the crucial moment; and, further, that when they are packing, it is necessary that the blooms shall be perfectly dry.

Watering and Feeding.—Although Sweet Peas are good trenchermen, it is not simply possible but exceedingly easy to over-feed them. As far as watering is concerned, no experienced grower will ever do it until he is obliged; but in the case of feeding there is a decided tendency towards over-generosity. Loosening of the surface soil and mulching are persisted in to reduce the necessity for the applications of water, and wisely so; but the same judgment and discretion ought to be given to the use of liquid manures. When special feeding goes so far that the plants become gross, the flowers are too widely separated on the stalk, and usually they become large at the expense of substance, with the result that they have a flabby aspect. Correct feeding is difficult. It is an art which cannot be too closely and too intelligently studied. It will be ascertained quickly that the treatment which suits one variety will not suit another, and that following identical rules in different soils and localities will by no means bring about identical results. In any event, it is necessary to adhere strictly to the rule never to apply liquid manure of any kind when the soil is dry, and also to consider the wisdom of affording as varied a diet as circumstances and conditions permit.

Staging Blooms.—The importance of arranging the colours carefully cannot be over-estimated. It is very clear from the exhibits which one sees at many shows that some cultivators take the view that fine blooms are all that is required. When the competition is poor, this principle may, and usually does, work out all right; but when the rivalry is keen, skilful arrangement tells another story. When the judging is done on what may be termed general impressions, the group in which the varieties are so disposed that each aids the other is bound to come out on the top; while, when pointing has to be done, marks will be given without hesitation to the artistically-arranged exhibit which the carelessly-arranged set could never hope to secure. The tyro who does not clearly see the force of this ought to arrange and rearrange a few sets of twelve until he fully grasps how much the judicious association of colours adds to the effect of a set. It will be time well spent, and will mark the difference between success and failure, sooner or later.

H. J. W.

THE CARNATION: ITS HISTORY AND CULTIVATION.

Its History.—The fascination of the Carnation is very great, and so we find people year after year attempting its cultivation with a success in the inverse ratio to their enthusiasm. Its very history fascinates the searcher after flower-lore of the past, and quite a serious accretion of fabulous material has gathered round its name. In this respect it may be called the King Arthur of the vegetable kingdom. Similarity of designation to other plants has been responsible for a good deal of controvertible assertion of this kind; but there is also a more regrettable readiness to give to it names of other plants as synonyms to which it has no right whatever. The obscurity which envelops nearly all plant history up to the middle of the sixteenth century veils that of the Carnation in an impenetrable gloom, and we do not know when it first found a place in English gardens. Continental authorities, on the other hand, can trace it back centuries earlier, and they have also to their credit cultural treatises long in advance of any of ours. Liebault, in the sixteenth century, shows that two distinct sections were cultivated in France. To Clusius we are indebted for the knowledge that a wonderful type of apricot-coloured Carnations was common in Silesia. Monographs appeared in France in the seventeenth century—"Le Jardinage des Œillets" in 1647—which fully demonstrates the great hold the flower had on the florists of that country. Nothing of the kind appeared in England till a century and a-half later, and it is a remarkable fact that nearly all our writers—Gerard, Parkinson, Rea, Laurence, Maddock, Hogg—refer to the introduction of Continental types which were seized upon by English cultivators. We know that our present border Carnations are derived largely from a German strain imported by the late Mr. Martin Smith, the great value of his labours being the production of a stronger plant with considerably more vigour than the devitalised English type which it displaced.

MINIATURE WATERFALLS IN THE ROCK GARDEN AT LEONARDSLEE.

Its Cultivation.—Would-be cultivators, in spite of all that has been said to the contrary, must recognise in the Carnation a difficult plant to manage. Treated as a hardy plant, which undoubtedly it is, it exhibits remarkable peculiarities. One year we find it thriving like the grass of the field, and the next dying by dozens, and producing insufficient stock to keep up a succession for the next. Varieties exhibit these failings more or less intensely, some not at all; and the only way many of us can maintain a healthy stock is to cultivate a portion under glass and propagate from that. Understand, it is not because the varieties are not hardy, for the plants from inside layers planted in the autumn will be found to winter equally as well as, or better than, those from layers from the open, but they do not continue healthy if grown continuously in the open. Another way to maintain a healthy stock is to introduce layers from a different part of the country, and a warmer one if possible. There is abundant recompense for the labour involved in cultivating a portion of the plants under glass, in the fine blooms they produce long in advance of those from the same varieties out of doors. I have for some time been cutting beautiful blooms from border Carnations in 6-inch pots, but to have

extra strong plants it is to be preferred that two or three should be potted up in 7-inch and 8-inch pots. It is usual for these plants to yield a second crop of bloom from the strongest of the "grass"—the young shoots which grow from the base of each plant. Hence it is generally late before pot-grown plants can be layered, but to make up for that the layers root in less time than those on border-grown plants. Cuttings from the stems strike with facility in autumn in bottom-heat, and the plants from these flower a little later than the others. They display a different habit of growth, and, as I think, produce a better type of flower.

The Best Manure.—Apart from the tendency of some varieties to "wear out," as it is called, plants during the summer months not infrequently suffer from an insufficiency of nourishment. Carnations, it is true, dislike a highly-manured soil, but they have no dislike to manure provided it is presented in the form of a surface-dressing. Some folks give them a mulch, but a mulch in early summer is not enough, and repeated applications of soot, superphosphate or one of the special Carnation manures are in many soils essential to the health of the plants. Autumn planting is, as a rule, better than spring planting; but where it is incumbent that the latter must be the practice, then it should not be delayed till spring has given place to summer. Once into February and the soil in proper condition, Carnations succeed better planted then than if delayed till April or May.

Layering I have always found to be a much simpler operation than it is made to appear in books. In light soils layers root perfectly without the addition of anything to further the operation, and where it is considered important to apply a compost, it should be seen to that it is placed where the roots will get into it. For it is usual to see it placed above the part from which the roots proceed, and therefore of no use. When the shoots to be layered are too far up the stem to be brought to the soil-level, the plant should be loosened from its stakes and brought down so that the layers are close to the soil. To keep shoots from snapping off they should be twisted round, when none will be broken. On taking the rooted layer, cut the part which united it to the parent plant close to the stem of the layer, and roots will be produced from the cut portion. When an inch or 2 inches are left of the old stem, it is not only unsightly, but may damage the young plant. R. P. BROTHERSTON.

THE JAPANESE IRIS.

Now that Iris lævigata (syn. Kæmpferi) is flowering so well in many gardens, it may not be out of place to draw attention to its peculiarities in regard to culture. It is an Iris that likes to be kept fairly dry in the winter and wet in the summer. In Japan it is extensively grown in the Rice fields, which are heavily manured in the winter when dry, while during the summer the fields are flooded by irrigation, when the Irises are about two inches under water.

OUR FIRST PRIZE ROCK GARDEN.

THE rock and alpine garden at Leonardslee affords much room and scope for pleasure and study, as a good number of rare and half-hardy plants are grown, many of botanical interest, my employer being especially keen and enthusiastic on all rare plants. We are year by year gradually making the garden anew on the moraine principle, using very little soil. The ingredients used were eight parts sandstone, crushed from 3 inches or 4 inches to as small as sand, one part loam, one part leaf-soil, one part granite grit and one part peat; and after three years we are convinced that the plants are making splendid sturdy growth, and are, therefore, more likely to stand the vagaries of the weather than when so much soft sappy growth is made. As far as possible we plant seedlings, as these send forth a long tap-root, which goes down deeper to find moisture and gets in behind the large rocks, where it is safe from all extremes of weather.

Large masses of Dianthus will be noticed, and these grow with great freedom and make a good show during May and June. Among some are D. alpinus, D. arenarius, D. barbatus, D. cæsius, D. deltoides, D. fimbriatus, D. alpinus albus, D. fragrans, D. monspessulanus (D. alpestris), D. neglectus, D. petræus, D. plumarius, D. p. annulatus, D. Hookeri and D. sylvestris. We also grow about fifty species and varieties of Saxifragas, including all the newer varieties, which do very well. Then, we have a nice collection of Cytisuses, which include all the up-to-date species and hybrids.

A collection of Celmisias, which are planted on a portion of the alpine garden on the north side, are doing remarkably well and flowering most freely. Among them are C. spectabile, C. Mackayi, C. Munroi, C. holosericea, C. hieracifolia, C. grandiflorum, C. macrocephala and C. verbascifolia. We have several of the New Zealand plants of Fagus fusca, F. Solanderi and F. cliffordioides, which are growing nicely on the same quarter. Ranunculus insignis is growing freely here also, and it flowered well this spring. On another portion we have, doing well and flowering freely, Lewisia Howellii, L. rediviva, L. Cotyledon and L. oppositifolia; these, we consider, are charming plants for the alpine garden, and they have now stood out two winters. Then, we have a fairly representative collection of Campanulas, which include such as C. amabilis, C. carpatica White Star, C. cenisia, C. alliariæfolia, C. Allionii, C. garganica hirsuta alba, C. carpatica, C. morettiana, C. Raineri, C. raddeana, C. thyrsoides, C. Zoysii, C. Hendersonii, C. pumila and p. alba, and C. portenschlagiana, which make a brave show at various seasons

A VIEW IN OUR FIRST PRIZE ROCK GARDEN SHOWING THE NATURAL SETTING OF THE STONE.

In shrubs we have a good collection of small Japanese kinds, comprising many Piceas and Juniperus; these make a nice show all through the season and break the flatness here and there. Others are some of the newer and dwarf varieties and species of Berberis, and a few good pieces of B. Thunbergii, which make a good display in the spring and have very brilliant-coloured foliage in the autumn. Veronicas also play a part in breaking up any flatness, such as Veronica Armstrongii, V. Hectori, V. lycopodioides, V. salicornioides, V. cupressoides and V. saturioides, making a nice display when in flower, and they also look well in winter.

In the illustration showing the waterfalls there are planted in the crevices a lot of Ramondias, Saxifraga longifolia, Arabis, Aubrietias in variety and Omphalodes cappadocia. On the corners of the larger rocks and on either side are large plants of Rhododendron ferrugineum, R. f. album, R. ciliatum, R. racemosum, R. intricatum, Sparaxis

pulcherrima, plants of Muehlenbeckia, Olearia Gunnii, Geranium argenteum, Saxifraga granulata fl.-pl., Veronica spicata, Yucca grandiflora and Arctostaphylos in variety. In the bottom, partly in water and the others in bog, there are nice plants of Philesia buxifolia, Mitraria coccinea, Primula sikkimensis, P. bulleyana, P. littoniana, Ranunculus Lyallii, Primula capitata, P. cockburniana, P. kewensis, P. rosea, P. japonica, P. pulverulenta and Pinguiculas. Cypripedium acaule, C. Calceolus, C. spectabile, Astilbe simplicifolia, Trillium grandiflorum, Sarracenia purpurea, Carex Grayii, C. longifolius, Spiræas in variety, and bulbs, such as Narcissus minimus and other dwarf early species and varieties, also find a happy home there.

There is also a portion devoted to plants which require lime, and in order to give this we employ limestone in the place of sandstone, and also use a portion of gypsum in the soil when mixing it. Several of the Primulas do better in limestone, as does that beautiful plant Phyteuma comosum, which is now flowering. Then there are many of the Saxifrages, Sedums, Sempervivums, Dianthuses, Cerastiums, Dryas, Gnaphaliums, Hutchinsias, Achilleas, Geraniums and Cyclamen; of this latter we have several nice colonies, which flower and do well under some of the low, umbrella-shaped Piceas.

As many of the alpine plants are short-lived and all sorts of ravages take place with insects, rodents, and heat and cold, a special set of frames should be set apart for propagation, and the necessary assistance should always be at hand for shading, watering and all other work which alpine gardening brings in its trail. W. A. COOK.

(Head-gardener to Sir Edmund G. Loder, Bart.)
Leonardslee Gardens, Horsham.

ANOTHER VIEW IN OUR FIRST PRIZE ROCK GARDEN, SHOWING THE JUDICIOUS ARRANGEMENT OF DWARF CONIFERS AND OTHER ALPINE PLANTS.

CLIMBING PLANTS ON KITCHEN GARDEN WALLS.

[*See Special Supplement.*]

IN a great many gardens the walls of the vegetable department, which at one time were extensively used for the cultivation of fruit trees, have, for some reason or other, been utilised for some at least of the many good climbing plants that are now available for outdoor cultivation. Probably landscape alterations of a more or less extensive character have rendered it desirable to move the kitchen garden further away from the mansion, when, instead of pulling down the walls, they have been left and judiciously clothed with vegetation, thus affording protection to the climbers and also to the flower borders which they enclose. Another reason that may have had some influence in putting the kitchen garden walls to beautiful, if less utilitarian, purposes is the tendency nowadays to cultivate flowers by the pathways in the vegetable garden. Where such borders are formed, they provide an abundance of flowers for cutting, and impart to the kitchen garden an interest that even the best-grown vegetables and fruits are scarcely capable of doing. Usually these flower-bordered pathways run straight from the entrance to the exit, and, where such is the case, the openings or gateways in the wall afford generous support for flowering or fine-foliaged climbers, even though the rest of the wall is devoted to its original purpose of forming a shelter and support for choice fruit trees. Indeed, the general effect of the flower borders would be sadly marred if fruit trees were allowed to encroach on the view that the careful designer of flower borders in the kitchen garden will take pains to provide.

The Special Supplement presented with this issue gives a good idea of the charming effect that is obtained by clothing these openings in this way. Here we see a well-proportioned archway in the wall of the old kitchen garden at Harleyford, Marlow, where Lady Clayton has designed and obtained some delightful floral effects. This particular archway is clothed with the Mountain Clematis (C. montana), Wistaria chinensis, Vitis purpurea and Vitis or Ampelopsis hederacea, the whole forming a pleasant canopy to an opening through which the flower borders and grass walk are seen, a similarly clothed arch being shown at the other end of the pathway. Mr. Tipping, writing of this garden in *Country Life* a year or two ago describes it thus: "The main floral display is in the joyous and enticing pleasaunce which Lady Clayton has evolved out of the old kitchen garden. This consists of three walled enclosures opening on to the river on the south, but with tall trees forming a northern bulwark and background. Wide arched openings carry the visitor's eye from end to end of the whole space along a broad path which, in the middle of the central enclosure, widens out into a grass rotunda set with a boy's figure carrying a sundial and edged with seats. This long and dignified way is framed with a rich profusion of perennials, bulbs and annuals, of which the selection, the arrangement and the cultivation are all that can be desired."

In some instances parts of old kitchen gardens have been made into a more or less formal Rose garden, and then Rambler Roses naturally form the canopy to the wall opening or gateway. Such varieties as Alberic Barbier, Rosa sinica Anemone, Ards Rover, splendens, or, indeed, almost any of the strong-growing ramblers, are suitable for the purpose, though, where the walls are of red brick, care must be taken that ramblers with pink or red flowers are not used, otherwise, unless the brickwork is fully clothed, there will be a clashing of colours that will offend the eye. Of climbing plants, other than those named as growing on the archway, that might be used for a similar purpose are Wistaria multijuga, Japanese and European Honeysuckles, Aristolochia Sipho, Polygonum baldschuanicum, Akebia lobata, Ceanothus veitchianus, Escallonia rubra, most of the free-growing Clematises, Tecoma radicans and Actinidia chinensis. Before planting, the ground should be thoroughly and deeply dug and manured, and during dry weather the climbers must be given copious supplies of water. It often happens that plants which are growing against walls suffer from drought, when those in the open have ample supplies of moisture, a point that must not be overlooked.

ROYAL HORTICULTURAL SOCIETY'S SUMMER SHOW.

FAVOURED by perfect weather on the opening day, the Royal Horticultural Society held its Summer Show on July 1, 2 and 3. The exhibition was held in the spacious grounds of Holland House, Kensington, by kind permission of Mary Countess of Ilchester, and by a general consensus of opinion it was considered one of the most successful in the annals of the society. The arrangement of the groups shows an advance on previous years, and the many fine examples of wall, water and rock gardens formed a charming feature of this Summer Show. Immediately the show opened, visitors poured into the grounds in exceptional numbers. To the Rev. W. Wilks (Secretary), Mr. S. T. Wright (Superintendent) and Mr. Frank Reader we tender our best thanks for their assistance, without which it would have been impossible to report this comprehensive exhibition.

HARDY PLANTS.

It is highly probable that at no previous exhibition held within the historic grounds of Holland House have hardy plants been displayed in such numbers or variety. They were there, too, in such profusion, representative of all phases of gardening in the open air, whether in the border, the rock and water garden, or what you will. It is true, however, that some of the more sumptuous or comprehensive exhibits—those embracing rock and water gardening, wall and water garden with herbaceous borders—were not to be found on so vast a scale as on former occasions, a fact due entirely to exigencies of space and the ever-increasing volume of exhibitors pervading this particular field. Hence moderate-sized exhibits were seen rather than others of huge size.

Of the bolder herbaceous border groups, one of the most telling perhaps was that from Messrs. J. Box and Sons, Limpsfield, Hayward's Heath, who occupied a particularly good position at the end of Tent No. 3. From a bold central group of Thalictrum flavum there appeared Phloxes and Delphiniums in the highest perfection, while Gladioli and Astilbes in variety were very effective. Then from a central pond appeared a galaxy of Water Lilies, Iris Kæmpferi also playing an excellent part. The boldest plant in the arrangement—an excellent subject for wild gardening—was Salvia turkestanica.

In the same tent Messrs. W. Cutbush and Son, Highgate, N., displayed a group rich in Larkspurs, Eremuri, Water Lilies and the ever-welcome Iris Kæmpferi. It was most effective.

Bees, Limited, Liverpool, had some rather choice plants on a table group—Armeria cephalotes Bees' Ruby, Trollius patulus (type), Lupinus argenteus, Trollius yunnanensis (rich golden), Primula angustidens (with rich flowers like those of P. beesiana), Campanula pusilla Miss Willmott and Celmisia speciosa argentea. A most interesting lot.

Messrs. Fells and Son, Hitchin, displayed a group rich in Delphiniums, Gaillardias, Campanula pusilla Miss Willmott (pale silky blue), Primula bulleyana and P. capitata, and a very fine mass of Thymus Serpyllum coccineum.

Mary Countess of Ilchester (gardener, Mr. Dixon) had an unusual display of well-grown pans of Sempervivums (Houseleeks), some of which were quite rare. Arachnoideum rubrum, cenophyllum, murale, tomentosum, minor, and Laggeri Housei are all of the Cobweb section, some quite distinct. Others noted included triste, t. tricolor and rubicundum. There were a dozen finely-fruited pots of Nertera depressa in the group and a few Saxifrages.

Mr. Stewart Maple, Stevenage, had a brilliantly-flowered piece of Sedum Lydium, together with Campanula pusilla Miss Willmott and Coronilla cappadocica, full of golden yellow flowers.

Mr. H. Newman, Watford, displayed a stand of a new double-flowered Pink which is also very fragrant. Unfortunately, like most of its race, it bursts its calyx. It is called Challenger.

Mr. H. Hemsley, Crawley, included rockwork, border plants and alpines in a rather extensive exhibit. Of particular interest was a series of hybrid Antirrhinums raised from crossing sempervirens and majus. Some are very pretty, and numerous colour shades are represented. Inula acaulis (rich yellow and only 2 inches high), Wahlenbergia vincæflora, Viola hederacea, Lysimachia Henryii and the pretty-flowered Coris monspeliensis were also noted in an interesting group.

Messrs. Pulham and Sons, Elsenham, had some pretty hybrid Dianthi of the taller border sorts, such as Elsenham Seedling and hybrids of annulatus. Escallonia langleyensis, with blood red flowers, was very fine, and so, too, were Andromeda speciosa and Campanula Miss Willmott.

In the open Messrs. Watkins and Simpson, Tavistock Street, W.C., arranged a group of Nemesias and Antirrhinums, all being grown in pots. Blue Gem and Triumph were the best of the Nemesias, while White Queen among the Snapdragons was as good as any. Lobelia tenuior, tall of habit and exceedingly rich in colour, was most effective.

Mr. Amos Perry, Enfield, had a great display of Delphiniums, hardy Ferns and other plants. The best of the Larkspurs were Eric Kingscote (a fine mauve), Perry's Favourite, Moerheimii (white), Carmen and gloriosa. Campanula Bowles' Hybrid is a fine bit of colour. Hybrids of Phlox Arendsii were notable, while Salvia lutea is perhaps the only yellow-flowered species of its genus in the herbaceous section.

Mr. M. Prichard, Christchurch, had a particularly bold display of rock and herbaceous gardening, in which Larkspurs, Spiræa palmata, Wahlenbergia vincæflora, and Lavatera Olbia were prominent items. Many choice alpines were employed, the Lewisias calling for special remark.

Messrs. Wallace and Co., Colchester, had this time to be content with a smaller space, utilising it well, however, with a wall and water garden arrangement and a telling bank of herbaceous flowers. The latter was rich in Lilies, also Heucheras and Eremuri. Calochortus Vesta made a great show, while Brodiæa coccinea was exceptionally brilliant in colour. The water garden portion was very naturally disposed, and the varieties of Iris Kæmpferi that were boldly grouped by its margin were very fine, particularly Morning Mist, a large flower with white flushed lavender petals.

Messrs. James Veitch and Sons, Limited, Chelsea, had a great gathering of Eremuri, also Astilbes, the pure white A. grandis making a notable plant among the rest.

Messrs. Jackman and Son, Woking, staged a very showy lot of herbaceous things, Irises, Delphiniums, Campanulas, Gaillardias and other seasonable flowers. Tunica Saxifraga alba was very pretty.

Messrs. G. and A. Clark, Limited, Dover, displayed Larkspurs, Pentstemons, early Gladioli, Liliums of sorts, Eremuri, the fine violet and white Delphinium Rev. E. Lascelles, Salvia turkestanica and the like.

Messrs. Phillips and Taylor, Bracknell, had a particularly good piece of water gardening in conjunction with herbaceous border grouping. Such Water Lilies as Nymphæas carnea, gladstoneana and the rich red William Falconer were very good. Many other aquatic and waterside gardening plants were employed with good effect.

Messrs. T. S. Ware, Limited, Feltham, had a capital grouping of herbaceous flowers, with a narrow pool for aquatics and allied plants, fronting the arrangement with choice alpines. Astilbes in variety, with great masses of Iris Kæmpferi, played their part uncommonly well.

Messrs. Carter and Co., Rayoes Park, in the open, had a fine Japanese garden, with pool, paved way, walks and wall garden. At the back were many Rose pyramids, while around the pool hundreds of Iris lævigata (Kæmpferi) showed these fine plants to advantage. The Irises alone were quite a feature, and were greatly admired.

Baker's, Wolverhampton, had a particularly bold ground group of herbaceous flowers, finishing it down to the edge with the more minute-growing subjects. English Irises, Delphiniums, Gaillardias and all the bolder things in season were noted. Dwarf Campanulas and Thymus Serpyllum coccineum were prominent features in the foreground.

Messrs. Paul and Son, The Old Nurseries, Cheshunt, displayed a table group of hardy cut flowers, Heucheras, Eryngiums, Verbascums and Alstrœmerias being noted among the bolder masses of things.

Messrs. Blackmore and Langdon, Bath, had a group entirely composed of Delphiniums of the finest quality. Statuaire Rude, Lilacina, Moerheimii (white), Lord Curzon and Rev. E. Lascelles were perhaps the most striking of all. The Larkspurs were particularly well shown.

Mr. G. Reuthe, Keston, Kent, arranged an extensive exhibit of Lilies, choice shrubs and alpines. The Eremuri were very telling, and some fine masses of Erica cinerea told their own tale.

Messrs. Lilley, Guernsey, arranged a most graceful exhibit of early Gladioli, Sparaxis and Ixias, the Sparaxis constituting a most graceful and pleasing item, and, moreover, are much too rarely seen.

The extensive group of hardy herbaceous flowers from Messrs. G. Bunyard and Co. was among the finest of the table groups the show contained. Masses of Lilies, Eremuri, Delphiniums, Gaillardias, Astilbes and Campanulas each played a part well. The group was most effectively arranged.

Messrs. Bath, Limited, Wisbech, had a group of the choicest Delphiniums, Clara Stubbs, Lizzie, Ceres, and King of Delphiniums being all distinct and good.

Messrs. Kelway and Sons, Langport, also had a group rich in the Larkspurs they grow so well, the bold and telling spires of the flowers creating a fine effect. Beauty, Ladye Fair, Star of Langport, Lovely, Magnificent and Lord Wordell were among the more striking. Single Paeonies were also on view and were very beautiful.

Messrs. Gunn and Sons, Olton, Birmingham, staged herbaceous Phloxes in their accustomed manner. Flora, America, Elizabeth Campbell, G. A. Strœhlein, Lady Stewart, Ellen Willmott and Mrs. Oliver were all good and distinct. This Phlox group was one of the most telling in the show.

The Misses Hopkins, Shepperton-on-Thames, had a small, prettily-arranged group, in which Campanulas, Viola Hopkinsonii and other choice plants were seen.

Messrs. Whitelegg and Page, Chislehurst, displayed effectively Campanulas, Potentilla Miss Willmott, Astilbes, Larkspurs and Irises.

Mr. F. Smith, Woodbridge, had a showy lot of Gaillardias, Verbascums, Delphinium Mrs. Creighton and other plants.

John Forbes, Hawick, Limited, arranged in the open a very showy lot of hybrid Pentstemons, Phloxes and other things, the whole creating a fine spectacle near the entrance.

ALPINES AND ROCK GARDENS.

Mr. Reginald Prichard, West Moors, Wimborne, arranged a small table group of alpines, in which the brilliant Potentilla Miss Willmott, Campanula garganica hirsuta, Scutellaria indica japonica and Edraianthus dalmaticus were among the more prominent features.

The rock garden in Tent No. 1 arranged by Messrs. Piper and Sons, Bayswater, was one of the great features of the show, the finest and most naturally disposed of any rock garden this firm has ever attempted. It was, if we may say so, a possible piece of work, one that if transferred bodily to the open garden would have rendered alpine plant-growing a quite possible thing. Not a few of those we see are just the opposite, more of the plant cemetery business than anything else. Cheddar limestone was employed, its grey colour lending itself admirably to such work. We think it was the perfect naturalness and simplicity of the arrangement which appealed to us most strongly. The choicest plants were employed, and those freer-flowering subjects, like Thymus Serpyllum coccineum, were a great charm. A crevice filled with Sempervivum arachnoideum was very fine.

Messrs. Cheal and Sons, Crawley, had a pretty rock wall and rock garden arrangement with paved walk and the like, all delightfully planted, and presenting a type which is of much service in the garden. The filling of crack and crevice was very pleasingly done.

Mr. Clarence Elliott, Stevenage, had a table rockwork arrangement outside Tent No. 2. Prominent features were Campanula pusilla Miss Willmott, a very deep violet-coloured form of C. linifolia, not more than 9 inches high, with C. pulla, Wahlenbergia vincæflora, the pretty Arborescent Sedum, S. liebmannianum, and other plants.

Messrs. Piper, Bayswater, in the open, had a wall and terrace garden surrounded by clipped trees, in conjunction with a water pool and a choice assortment of Lilies and Rose trellis at the back.

The Wargrave Plant Farm, Twyford, arranged alpines in groups on a table space in the open, employing many choice and useful plants. Sedum cæruleum was very beautiful, while colonies of Coronilla cappadocica, Campanula garganica in variety and C. G. F. Wilson were also noted.

Mr. G. Reuthe, Keston, Kent, had a table group of alpines in the open, replete with choice plants. Rhododendrons daphnoides and hirsutum were good among shrubs, while Umbilicus chrysanthus, Campanulas in variety, inclusive of the rare C. raddeana, Erica cinerea pygmæa, E. c. alba and E. c. rosea gave sheets of colour of the most charming kind. Edelweiss, Sedum sulphureum, Umbilicus Semenovi and Silene Elizabethæ were notable among other things.

Mr. Charles Rassell, Earl's Court Road, contributed a small enclosed rock garden, with paved walk, all pleasingly planted and arranged with rock, alpine and shrub. It was most effective.

The rockwork which Messrs. Barr and Sons, Covent Garden, set up in Tent No. 1 was a great attraction, weathered mountain limestone being employed, and, arranged close upon the ground, gave evidence of much thought and care. Such Campanulas as raddeana, C. pusilla Miss Willmott, C. turbinata, and C. rotundifolia Ditton Gem were all employed in free colonies, and in conjunction with water and supported by the best herbaceous plants made a comprehensive and telling feature.

MISCELLANEOUS STOVE AND GREENHOUSE PLANTS.

Messrs. James Veitch and Sons, Limited, Chelsea, put up a splendid exhibit of the choicer greenhouse flowers for which they are noted. These were arranged in blocks of each kind, so that their prominent characteristics were very noticeable. Malmaison Carnations were very fine, as also were the rich Tyrian blue-flowered Exacum macranthum, Sollya Drummondii (the Blue Bell Creeper of Australia), Solanum Wendlandii (a number of perfect examples), Begonia Luzerna and Cannas in variety. These formed such a gorgeous feature that the names of a few of the best are herewith appended: J. B. Van der Schoot (golden yellow, spotted crimson), rosea gigantea (deep rich rose), Niagara (red, margined gold), Duke of York (crimson, gold border), Frau E. Kracht (rosy salmon), Stuttgartia (scarlet and orange, edged light yellow), Duke Ernst (reddish scarlet) and Furst Weid (deep crimson).

From Messrs. John Peed and Son, Norwood, came a fine group of specimen Caladiums, all bearing evidence of great care and attention in their cultivation. Two new varieties stood out markedly, namely, Red Indian (rather small leaves of a brilliant scarlet red with a narrow green edge) and Crested Wave (a transparent white leaf with green veins and edges). Of older kinds may be especially noted Henry Lovatt (red, freckled, green edge), Mme. Mitjana (intense self crimson), Mrs. Harry Veitch (dark red), Sir Henry Irving (creamy white, green margin, rose veins) and Her Majesty (bright green and white, tinged carmine). The Gloxinias and Streptocarpus from Messrs. Peed were also particularly good.

Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, are unsurpassed in the culture of the tuberous-rooted Begonia. Their exhibit, consisting solely of double-flowered varieties, fully upheld the great reputation they have so long enjoyed. Of especial note were Queen Mary (light rose pink), Lady Tweedmouth (salmon pink), Irene Tambling (brilliant orange), Rose Queen (rich rose), Princess Victoria Louise (pale flesh pink), Duchess of Cornwall (rich crimson), Mrs. Robert Morton (yellow, with an amber shade) and Empress Marie (pure white). Besides these were some of the drooping kinds so useful for suspended baskets, namely, Golden Shower, Mrs. Bilkey, Ruby, Rose Cactus and Gladys.

From Messrs. R. and G. Cuthbert, Southgate, came a group in which Humea elegans figured largely. Other subjects which were also freely represented included Streptosolen Jamesonii, Lilium longiflorum, and that exceedingly showy annual known as Viscaria oculata and Lychnis cœli rosea.

Mr. L. R. Russell of Richmond showed a fine collection of indoor subjects, mainly consisting of fine foliage stove plants, such as Crotons, Dracænas, Alpinia sanderiana, Anthurium Veitchii, Sonerillas, Marantas, &c. Of greenhouse subjects there were large batches of Salvia Glory of Richmond, remarkable for its bright-coloured blossoms; Nertera depressa, which Mr. Russell induces to fruit in such a remarkable manner; and Abutilon Sawitzii, whose variegated leaves are so much appreciated for various decorative purposes. A large batch of the uncommon Nicotiana colossea variegata, with immense soft green leaves bordered with light yellow, formed a very striking feature.

Mr. W. H. Page, Tangley Nurseries, Hampton-on-Thames, showed large hemispherical groups of the three varieties of Zonal Pelargoniums for which he is so noted, namely, His Majesty, Fiscal Reformer and Winter Cheer. Besides these, smaller groups of the following desirable kinds were shown: Barbara Hope, salmon; Venus, white; and Her Majesty, very bright salmon.

Messrs. Godfrey and Son, Exmouth, Devon, contributed an interesting collection of Pelargoniums, in which all the different sections were represented. The scented-leaved varieties, which are again becoming popular, were well shown. Besides the Pelargoniums a prominent feature of this group was a number of dwarf flowering plants of Solanum Wendlandii.

An unusual exhibit was a large number of the different varieties of Crassula coccinea from Lady Northcliffe, Sutton Place, Guildford. Besides the rich-coloured forms there were several of softer hues, and exceedingly pleasing they were. Such an exhibit of this good old plant should lead to its extended cultivation, as for greenhouse decoration its merits rank high.

Messrs. William Cutbush and Son, Highgate, put up a large collection of flowering subjects, Hydrangeas in blue, white and pink being freely represented. Of these a new variety, La Perle, with large white flowers serrated at the edges, was very striking. Another variety with huge blossoms was Beauté Vendomoise whose colour is pale mauve. Besides the Hydrangeas there were also flowering Cannas in great variety, the tree-growing Begonia corallina, B. Bertinii (a tuberous-rooted variety in great request for bedding) and Coleus Cordelia (which as a decorative subject has become exceedingly popular within the last few years).

Bottle Brush Flowers formed the predominant feature of a collection put up by Messrs. Stuart Low and Co., Bush Hill Park, Enfield. There were in addition Pelargoniums of different kinds, the whole being edged with that pretty free-flowering plant, Heeria elegans, whose bright ruby-coloured blossoms were much admired.

Mr. A. H. Gwillim, Cambria Nursery, Sidcup, showed a collection of tuberous-rooted Begonias, for which he is justly noted. They were all double-flowered varieties, many fine kinds being represented. Particularly noticeable were Sidcup Beauty (soft pink, much fringed), Miss Muriel Edwardson (light salmon, shaded cream), Mrs. Harris (salmon scarlet), Pride of Eltham (crimson), Margaret Gwillim (beautiful yellow) and Avalanche (white).

Messrs. James Veitch and Sons, Chelsea, put up a group of Astilbes and Spiræas, in which the various coloured kinds were freely represented. While of considerable value in themselves from a decorative point of view, these Spiræas also served as a desirable groundwork for a display of a number of cut spikes of different forms of Eremuri.

Messrs. James Carter and Co., Raynes Park, had a small tent to themselves of various seedling subjects, among which were several hardy annuals, and in addition a good collection of Streptocarpi and tuberous-rooted varieties of Begonia.

An exhibit of cut flowers of Zonal Pelargoniums from Messrs. H. Cannell and Sons, Swanley, was put up in their well-known style, and contained a choice collection of varieties.

Messrs. Jarman and Co., Chard, Somerset, contributed, in addition to their Centaureas and other herbaceous plants, a number of cut flowers of Zonal Pelargoniums, which were exceedingly bright and cheerful.

Pelargoniums of different sections were also shown by Mr. W. Treseder, The Nurseries, Cardiff, many of the show varieties being very fine. Among them was the exceedingly dark-coloured variety, Lord Bute, which received an award of merit two years ago when the Summer Show of the Royal Horticultural Society was held at Olympia.

A representative collection of Fuchsias was shown by Messrs. J. Piper and Sons, Bishop's Road, W. Dwarf plants, tall pyramids and lofty standards were all there in considerable numbers, the selection of varieties being a good and comprehensive one. Taken altogether, this was a decidedly uncommon exhibit.

Mr. W. A. Manda, St. Albans, Herts, put up a group of decidedly uncommon plants. The distinct and showy Fern Polypodium mandaianum was well represented, its good reputation being well maintained. Besides this were the graceful-habited Asparagus elongatus, which has proved of considerable value for decorative purposes, and Anthericum mandaianum, well suited for growing in suspended baskets, the dark green recurving leaves having a central band of yellow. The curious Alocasia lassalliana, a new species of tall and stately habit, with leaves considerably cut, was also noted in this group. Besides the subjects above referred to, there was a collection of hardy North American Cacti.

The only collection of exotic Ferns was contributed by Messrs. H. B. May and Sons of Edmonton. It was a very charming group, and well upheld the reputation of the firm for the culture of this beautiful class of plants. The bulk of the exhibit was made up of good representative specimens of the finest decorative Ferns. Davallias, Polypodiums and Adiantums were freely represented, but in such an extensive collection it is difficult to select any for special mention. A very fine form of Adiantum trapeziforme bearing the name of Queen Mary must not, however, be passed over, it being in every way very fine. Many of the smaller-growing kinds employed as an edging were very beautiful, and a small group of that extremely mossy variety of Nephrolepis exaltata was the admiration of everyone. The Lygodiums, too, were very striking.

Mr. Amos Perry of Enfield showed a group of hardy Ferns, not made up of curious or depauperated forms, but consisting of fine, bold-growing kinds, all of which are of great decorative value. They were so attractive as to suggest that hardy Ferns are very likely before long to regain their old-time popularity.

ORCHIDS.

As in former years, Orchids attracted a deal of attention, and the massive banks of Cattleyas, Odontiodas, Phalænopsids and Miltonias in many beautiful colours evoked great admiration from the constant stream of visitors who passed by.

Messrs. Charlesworth and Co., Hayward's Heath, were there with a wonderful display of Odontoglossums and their choice relatives, Odontiodas. A remarkable plant of Cattleya gottoiana The President, with trusses of large rosy pink flowers with deep crimson lips, was one of the gems of the collection. Epidendrum vitellinum majus, with orange-tinted flowers, and Dendrobium Dearii, with masses of white flowers, were both well shown. Of plants of botanical interest we observed the Holy Ghost or Dove Orchid, otherwise known as Peristeria elata, and Grammangis Ellisii.

Two bold groups of Cattleya gigas, with immense and highly-coloured flowers, shown in Messrs. Sander and Son's collection from St. Albans, were really one of the outstanding features of the Orchid tent. The same firm showed Phalænopsids in suspended baskets, from which the arching sprays of white flowers hung down in wild profusion over a groundwork of Miltonia vexillaria Empress Augusta. Many choice Odontiodas were shown in the foreground. The collection was staged in a masterly and effective manner.

From Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gardener, Mr. J. Collier), came a very interesting collection, in which the golden yellow Lælio-Cattleya Phœbe stood out well among the white flowers of Phalænopsis rimestadtiana. Odontoglossum Pescatorei and Odontioda Bradshawiæ were both shown in superb condition, while Miltonias bleuana, lambeanianum and vexillaria in variety were shown to perfection.

Mr. E. V. Low, Vale Bridge, Hayward's Heath, had a group of choice Orchids, in which we observed the curious Medusa's Head, or Nanodes Medusæ, and Bulbophyllum barbigeron, with hinged lips that sway in the lightest breeze. Cattleya Mossiæ Wagneri and a variety of Cypripediums, such as callosum Sanderi, Maudiæ and schofieldianum, were included.

Messrs. Mansell and Hatcher, Limited, Rawdon, Yorks, had a magnificent display of Cattleyas, mostly of the gigas type, with banks of Lælio-Cattleya Eudora and Aphrodite at each end. Cattleya Mossiæ Wagneri, with large white flowers, tinted yellow on the lip, was shown in perfect form. Miltonias were also fine, notably the large M. vexillaria Queen Alexandra and M. bleuana nobilior. Odontiodas, Disas and Phalænopsids all contributed to a very interesting and well-grown collection.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, had a nice group, in which Odontiodas, Cattleya hybrids and Odontoglossum Pescatorei were represented.

Mr. S. W. Flory, Tracy's Orchid Nursery, Twickenham, had a bank of Cattleyas, mostly of the Mossiæ section. Lælio-Cattleya canhamiana and Miltonia vexillaria were well shown.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, had an extensive and well-arranged group, in which the white sprays of Phalænopsis contrasted with the intense scarlet of Renanthera imschootiana. Among the gems of the collection were Cattleya dupreana Gorgeous, Lælio-Cattleya Eudora Crowborough variety, Phalænopsis rimestadtiana alba (with pure white flowers), Cattleya Wagneri, C. Mendelii La Vièrge and C. Mossiæ Wagneri Princess Mary Mertchersky. Some grand forms of Cattleya gigas were on view, also Dendrobium thyrsoides with immense flower-spikes.

ROSES.

In the group staged by Mr. C. Turner of Slough we noticed some very fine blooms, Coronation, a new rambler with scarlet flowers, being very bright. Ethel, a pink-flowered rambler, was also charming. Mr. Turner also had a sport from Lyon Rose, this being a semi-double variety with spreading habit and bright buff-coloured flowers. Hugh Dickson, Lady Hillingdon, Rayon d'Or, Duchess of Wellington and many other sorts were also well shown.

Messrs. William Paul and Son of Waltham Cross had a magnificent group of weeping standard and cut Roses, these including all the latest and best varieties. Beauté de Lyon, Arthur R. Goodwin, Rayon d'Or, Mme. Segond Weber, Lyon, Juliet, Hugh Dickson, Marquise de Sinety, Hiawatha, Tausendschön and White Dorothy Perkins were only a few of the many good Roses to be seen here.

Hobbies, Limited, Dereham, Norfolk, had a large group composed of weeping standards and baskets of cut blooms. Rayon d'Or was specially good, and Pink Pearl (a large single), Danäe (a perpetual yellow-flowered rambler), Lyon, Betty, Mme. Melanie Soupert, Effective (semi-double crimson with large flowers) and Lady Hillingdon also called for special mention.

Mr. George Paul of Cheshunt had a magnificent bank of cut blooms, pillar Roses and weeping standards, the whole being fresh and of good colour. Sunburst, Captain Hayward, Lyon Rose, Excelsa, Mrs. David McKee, Mme. Melanie Soupert, Beauté de Lyon, Shower of Gold (a new rambler with small yellow flowers) and George C. Waud were a few of those that called for special mention.

In the large group staged by Messrs. Stuart Low and Co. of Bush Hill Park, Enfield, we noticed many very good flowers, such varieties as Rayon d'Or, Sunburst, Commander Jules Gravereaux, Leslie Holland, Arthur R. Goodwin, Chateau de Clos Vougeot, Lady Pirrie, Harry Kirk, Duchess of Wellington, Molly Sharman Crawford and Pharisäer being particularly fine.

The Rev. L. C. Chalmers-Hunt, Willian Rectory, Hitchin, had a small but interesting exhibit of Roses, these including good blooms of such favourites as Mrs. John Laing, Frau Karl Druschki, Mrs. W. J. Grant and Lyon Rose.

Messrs. Frank Cant and Co., Braiswick Rose Gardens, Colchester, put up a very fine bank of Roses, these including a great many of the newer sorts. Rouge Angevine, a Hybrid Perpetual with large, semi-double, brilliant scarlet crimson flowers, formed a good centre to the group, and other noticeable sorts were Mme. Melanie Soupert, Lyon Rose, Rayon d'Or, Miss Ada Francis (a new rambler, with flowers resembling those of Goldfinch, but much freer than that variety), and Braiswick Chrome (a new wichuraiana with reflexed flowers of yellow hue).

Messrs. George Jackman and Sons of Woking used ramblers as a background to their group, cut blooms in tall vases and boxes being well shown in front. All were clean and good, Hugh Dickson, Le Progrès, Rayon d'Or, Lady Alice Stanley and Lady Ashtown attracting much attention.

Messrs. Benjamin R. Cant and Sons, Old Rose Gardens, Colchester, put up a very large and attractive group, ramblers and show varieties being included in great profusion. Mrs. Alfred Tate, Lady Hillingdon, Molly Sharman Crawford, J. B. Clark, Killarney, Rayon d'Or, Betty, Warrior, American Pillar and Edward Mawley were a few among many specially good sorts.

Mr. W. Easlea, Danecroft Rosery, Eastwood, Essex, had a charming little group of clean and well-coloured flowers. Cherry Page, a new decorative Hybrid Tea, formed a fine centre, the semi-double flowers of cherry pink, shaded yellow, being most attractive. Ethel, a new rambler with small pink flowers, Marquise de Sinety, Chateau de Clos Vougeot, Arthur R. Goodwin and Rayon d'Or were others that called for special mention.

Messrs. Morse Brothers, Deben Nursery, Woodbridge, had a good group of cut blooms, Juliet, Rayon d'Or, Orleans Rose and General Macarthur being very bright and attractive.

In the small but good group put up by Mr. John Mattock, New Headington, Oxford, we noticed excellent blooms of Irish Elegance, Marquise de Sinety, Mrs. T. Roosevelt, Mme. Segond Weber and George C. Waud, the colour of all being exceptionally good.

Mr. R. C. Notteutt, Woodbridge, exhibited a large and comprehensive group of cut Roses, among them being such good sorts as George C. Waud, Mrs. David Jardine,

A CREEPER-CLAD ARCHWAY,

With Herbaceous Borders in the back-ground, at Harleyford, Buckinghamshire.

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Mrs. Wakefield Christie Miller and Juliet, the whole being put up in good condition.

Messrs. G. Bolton and Son, Buntingford, Herts, had a large group of rambler and other varieties, including such sorts as Hugh Dickson, Mrs. Aaron Ward, Nita Weldon and George C. Wand.

The large bank of cut blooms staged by Messrs. W. and J. Brown of Peterborough was very attractive, the arch of Lyon Rose that formed the centre making a wonderful bit of colour. Prince de Bulgarie, Marquise de Sinety, Lady Pirrie, Harry Kirk, Rayon d'Or and Joseph Hill were others that added to the charm of this exhibit.

Mr. George Prince's group from his Oxford Nursery was well up to his usual high standard, being well arranged, clean and bright. His Lyon Rose was a wonderful colour, and Avoca was superb. Gardenia, Lady Pirrie, Mme. Melanie Soupert, Rayon d'Or, Blush Rambler and American Pillar were others that attracted considerable attention.

SWEET PEAS.

These were a great feature at this fine show, the flowers being in remarkably fine condition considering the season.

A capital lot of this fragrant annual was shown by Mr. James Box, Lindfield Nurseries, Hayward's Heath, Sussex. The colour was good, the quality all that one could well desire and, except for a little crowding, this exhibit was highly commendable. Varieties worthy of special mention were Thomas Stevenson, Maud Holmes, Rosabelle, Moneymaker, R. F. Felton, Elfrida Pearson, Dobbie's Cream, Mrs. Gibbs Box (superb), Orange Perfection, Blue Belle (lovely), Mrs. Hardcastle Sykes, Empress and James Box (gorgeous).

A very large and comprehensive display of Sweet Peas was shown by Sir Randolf Baker, Bart., M.P., Ranston, Blandford (gardener, Mr. A. E. Usher). Superbly fine were the flowers in every particular. Colour, form, freshness, length and stoutness of stems, all were shown in a high state of perfection, and the setting up of the flowers in the vases and stands showed considerable skill and artistic ability. Specially good were the following varieties: Edrom Beauty, Anglian Orange, Lady Miller, Princess Victoria, Barbara, Mark's Tey, Marjorie Linzee, May Campbell, Audrey Crier, Mrs. W. J. Unwin, Lady Evelyn Eyre, Lavender George Herbert, Dobbie's Cream, Agricola, Senator Spencer and Mrs. Cuthbertson. There must have been nearly one hundred and fifty stands in this remarkable exhibit.

Messrs. Barr and Sons, Covent Garden, W.C., had a few bunches of Sweet Peas with other hardy flowers, and this collection included several popular sorts.

Most attractive was the large and artistic group of Sweet Peas from Messrs. Sutton and Sons, Reading. In all there were about one hundred and twenty varieties, duplicated in several instances, so that the display was a very large one. The background was adorned with huge stands set up in attractive fashion, and what was most noteworthy in this exhibit was the colour of the flowers. Each colour was represented at its best, the richer tones being most gorgeous. We must not omit to mention some of the varieties that stood out distinctly for their general excellence. They were the following: Dorothy, Mrs. Cuthbertson, Rosabello, Scarlet Emperor, James Box, Sunproof Crimson, Elfrida Pearson, Barbara (superb), Earl Spencer, Lady Evelyn Eyre, Hercules, Florence Wright Spencer, Senator, May Campbell, Constance Oliver, Helen Grosvenor, Mrs. Townsend, Mrs. W. J. Unwin, Scarlet Emperor, Queen of Norway, Bertie Usher, W. P. Wright and Thomas Stevenson.

Messrs. Dobbie and Co., Edinburgh, well maintained their reputation as Sweet Pea experts, the flowers in a large group of Sweet Peas set up in vases and stands being remarkable for their superb quality. The flowers were large, beautifully fresh, quite in character, and noteworthy for their colour and freshness—they were without a blemish. Especially good were Inspector, John Ingman, Dobbie's Cream, Edna Unwin (glorious), Elfrida Pearson, Melba, Dobbie's Blue Picotee, Mrs. Hugh Dickson, New Marquis (superb), Mrs. C. W. Breadmore, Elsie Herbert, Lavender G. Herbert, R. F. Felton, Lady Knox, Mrs. Cuthbertson and Grey Lavender.

A pretty group of Sweet Peas was set up by Mr. J. D. Webster, Chichester. The group was not large nor very well arranged, but it included a number of the newer and more popular varieties.

A display of Sweet Peas was set up by the Rev. L. C. Chalmers-Hunt of Willian Rectory, Hitchin. There were about forty vases, and for an amateur the display was highly creditable. The quality of the flowers was generally good.

A bright and attractive display of Sweet Peas was made by Messrs. John K. King and Sons, Coggeshall, Essex. There were in all about seventy-two vases and stands, and the flowers were beautifully fresh and of good colour. Nettie Jenkins, Mrs. Heslington, Prince Edward of Wales, Mrs. C. W. Breadmore, Mrs. Cuthbertson, Hercules, Loyalty, Prince George, R. F. Felton, King Alfred, Maud Holmes, Elfrida Pearson, Mark's Tey and Isabel Malcolm were all good.

Robert Sydenham, Limited, Tenby Street, Birmingham, set up an exhibit of Sweet Peas, with dainty Maidenhair Ferns interspersed between the vases. Lady Evelyn Eyre, Maud Holmes, Edith Taylor and other good sorts were in evidence.

A pretty display of Sweet Peas came from Messrs. E. W. King and Co., Coggeshall, Essex, which lost in some measure owing to the formal and stiff arrangement of the flowers. They were bright and fresh, and included, among other varieties, good examples of Hercules, Rosabelle, Anglian Orange, Anglian Lavender, and Anglian Royalty (a quite unique Petunia shade), very distinct.

A dainty exhibit of Sweet Peas came from Messrs. G. Stark and Son, Great Ryburgh, Norfolk. Grasses, &c., were added, which is now very unusual, and it is questionable whether they added to the beauty of the display. Hercules, Improved Olive Ruffell, Thomas Stevenson, Lady Northcliffe (grown under glass), Maggie Stark, Nell Gwynne Spencer and Mrs. Cuthbertson were the better varieties.

A capital series of stands and vases of Sweet Peas was set up by Messrs. S. Bide and Sons, Farnham, Surrey. Although not one of the largest exhibits, the display was highly creditable. The flowers were very large, fresh and clean, and represented culture of the best. Edna Harland, Clara Curtis, Edith Taylor, R. F. Felton, May Campbell, Dorothy, Princess Mary (Bide's), Mrs. Cuthbertson and others were very fine.

In a specially-erected tent Messrs. James Carter and Co., High Holborn, W.C., displayed, among other subjects, a beautiful collection of Sweet Peas in large and handsome bunches arranged in vases. Among the good things to be found here were Helen Lewis (still good), Mrs. C. W. Breadmore, Thomas Stevenson, Annabel Lee, Earl Spencer, Hercules, Duplex Spencer, Mrs. W. J. Unwin, Florence Nightingale, Kathleen and Elfrida Pearson.

VIOLAS AND PANSIES.

One corner of No. 2 Tent was occupied with a very large and comprehensive group of bedding Violas and Violettas, set up in attractive fashion in pans of silver sand and hardy foliage. Of the Violas, conspicuous sorts were Kathleen, May, Cygnet (a good white), Swan, Mrs. Sandifer, Mrs. R. Eric Smith, Royal Purple, Royal Blue, Mrs. E. A. Cade, Ethereal, Reggie, and a host of other good things. The Violettas were really very charming. Mr. Howard H. Crane, Woodview, Highgate, N., who made this exhibit, has specialised in these beautiful rock garden plants, and they are destined to be largely used in the not distant future. Specially noteworthy were the following sorts: Rock Lemon, Rock Orange, Rock Yellow, Punty, Eileen, Chaffinch, Butterfly, Primrose Beauty, Forget-me-not, Mollie, Sweetness and Estelle.

Fronting the group of Pentstemons and Phloxes from John Forbes, Hawick, Limited, were quite a number of popular Violas. Noteworthy sorts were James Pilling, Campbell-Bannerman, Mary Burnie, Snowflake, Mrs. C. F. Gordon, President, Mrs. Chichester, Duchess of Sutherland and W. H. Woodgate. The flowers and growths on which they were developed gave evidence of having been grown in a cool, moist climate.

A very fresh and attractive lot of Violas, set up in pans, was shown by Messrs. Carter Page and Co., London Wall, E.C. Considering the trying weather of late, the flowers were in remarkably good form and condition. Noteworthy examples of these useful flowers were G. C. Murray, Harry Bamber, Ophelia, Jessie L. Arbuckle, Moseley Perfection, Winchmore Blue, Lizzie Storer, Purple Bedder, Kitty Bell and James Pilling.

A mass of Viola cornuta purpurea and an interesting lot of Violas were shown by Messrs. Rich and Co., Bath. We thought we had seen the last of exhibits of Violas in spray-like form in, say, half-a-dozen blooms of each variety. The Violas were poor and shrivelled in many instances. Quite refreshing, however, was the purple form of V. cornuta.

A small lot of Violas and the Pyrenean species were shown by Mr. G. W. Miller, Wisbech. Bridal Morn, Swan and Moseley Perfection were the better Violas.

CARNATIONS.

Messrs. W. Cutbush and Son, Highgate, N., and Barnet, Herts, occupied one corner of the big tent with a group largely made up of Carnations and a few good Pinks. Mounds and vases were most tastefully arranged with Malmaison and Perpetual-flowering Carnations, and in this way they were seen at their best. Mrs. C. W. Ward, Enchantress, White Wonder, May Day and Florence McLeod were a few of the better Perpetual-flowering sorts, and among the Malmaisons we noticed Marmion, Lady Coventry, Maggie Hodgson, Baldwin, Mercia, The Queen, Princess of Wales and Lady Grimston. This was a capital exhibit, and did the firm great credit.

A beautiful arrangement of Carnations in bold vases, bowls and stands was set up by Messrs. Stuart Low, Bush Hill Park, Enfield, Middlesex, in their exhibit. Of the Malmaison type, Blush Malmaison, Princess of Wales, Maggie Hodgson, Sir Evelyn Wood, Lady Coventry, Lady Arthur Butler, Jane Seymour, and a fine cerise seedling represented these handsome flowers in fine form and condition. There were many representatives of the Perpetual-flowering Carnations, all arranged in vases in a groundwork of beautiful Ferns.

Very artistic indeed was the group of Malmaison Carnations from W. M. Gott, Esq., Trenython, Par Station, Cornwall. As an example of an amateur's exhibit this was very good indeed. By the free use of Smilax, arranged on strained gauze, and a groundwork of Ferns, the effect was distinctly dainty. The Carnations were arranged in vases, and included, among others, the following varieties: Princess of Wales, Mrs. Trelawney, Mrs. Torens, Maggie Hodgson, Improved Duchess of Westminster, Blush Malmaison, Mrs. Wilfrid Gott and King Oscar.

Malmaison Carnations from Messrs. James Veitch and Sons, Limited, Chelsea, S.W., made a bright table group. The flowers were very fresh and in capital condition. Mercia, Duchess of Westminster, Maggie Hodgson, The Colonel, H. J. Jones, Princess of Wales, Souvenir de la Malmaison and Ivanhoe were all noteworthy.

From Mr. James Douglas, Edenside, Great Bookham, came many superb border Carnations, for which this raiser is so famous. Virginia (award of merit), Renown, The Baron (award of merit), Hercules, Sam Weller, Greyhound, Eros, Helen Comtess of Radnor, Ellen Douglas, Cecelia, Bookham White, Innocence, Mrs. Andrew Brotherston (very distinct) and Mrs. Robert Gordon were all most charming, and proved conclusively that the world is indebted to this firm for maintaining interest in the beautiful border Carnations that are so much admired.

As usual, Mr C. Engelmann, Saffron Walden, Essex, set up a noteworthy exhibit. Tall Bamboo stands made a background to many large and small vases in the front, and the exhibit was set up on the ground. The flowers were fresh, clean and of good colour, and their quality was certainly good. Pioneer, Lady Northcliffe, Harlequin, Carola, May Day, Gloriosa, Sunstar, Triumph, White Wonder and Lucy were some of the good things to be seen in this attractive display.

From Mr. Bertie E. Bell, Castel Nursery, Guernsey, came a most fascinating exhibit of Carnations. They were set up in vases of varying description, and the flowers themselves left nothing to be desired. The quality, colour and freshness were quite good. Notable sorts were Rose Doré, Winsor, Enchantress, Mrs. C. W. Ward, R. F. Felton, Britannia, White Wonder, Coronation, Carola and Judith.

That well-known grower, Mr. H. Burnett, Guernsey, had Carnations in grand form and condition. Splendid quality characterised the flowers in the whole of the display, specially good sorts being Mrs. C. F. Raphael, Marmion and La Rayonnante of the Malmaison type of this flower. Of the Perpetual-flowering kinds, Mikado, Triumph, Rosette, Mrs. H. Burnett, Shasta, Mrs. Crook, Lady Northcliffe, White Enchantress and May Day were very beautiful. This exhibit was badly placed, and should have been in the centre of the tent, where the taller vases could have been seen to advantage.

TREES AND SHRUBS.

Mr. L. R. Russell of Richmond arranged a very extensive group at the outside of the large tent. The dominant feature consisted of the specimen Ivies for which he is so noted, the large standards of the golden-leaved kinds being particularly attractive. The richest coloured of all was flavescens, though the variety palmata aurea ran it close. Fine specimens of Hedera dentata variegata were also very conspicuous. The effectiveness of this group was heightened by the choice low-growing kinds employed as a margin, the variety Sheen Silver being one of the very best. Besides this extensive group of evergreens, Mr. Russell had a fine and comprehensive collection of hardy Fuchsias, represented by good flowering plants. The well-known varieties, such as gracilis and corallina, were well shown, and besides these such lesser-known kinds as tricolour, brightoniensis, Thompsonii, Drame, myrtifolia minos, Enfant Prodigue, globosa and others.

From Messrs. James Veitch and Sons, Chelsea, came a magnificent collection of rare Chinese trees and shrubs. Comparatively few were in flower, but among those in that condition may be especially mentioned the striking Magnolia Delavayii, Spiræa Veitchii, Viburnum Henryii, and the golden-flowered Berberis brevipaniculata. All the specimens shown were handsome, well-grown plants, and in this way the great decorative value of many of them could be well seen. It is impossible to give anything approaching a list, but the following were especially noteworthy: Cotoneasters of different kinds, Viburnum rhytidophyllum, Viburnum Davidii, Liriodendron chinense, Osmanthus armatus, Lonicera pileata, Lonicera nitida, Berberis Wilsonæ, Larix Potaninii, Acers in great variety and several Vines. Close by Messrs. Veitch arranged a number of fine specimen Bays, some trained as standards and others as pyramids.

Mr. G. Reuthe, Keston, Kent, had, as usual, a large and interesting collection of different plants, among which were many uncommon shrubs. The singular Rhododendron camelliæflorum, with small white flowers like tiny single Camellias, was noted, as also were Pinus parviflora bearing cones, Pittosporums of different kinds, Fremontia californica flowering freely, Psoralea pinnata with purple Pea-shaped flowers, and several Rhododendrons remarkable for their handsome leafage, such as R. argenteum or grande, R. eximeum and R. Falconeri.

From Messrs. W. Fromow and Sons, Chiswick, came a grand collection of Japanese Acers, which they grow so well. The arrangement was particularly good, a judicious use of variegated-leaved Bamboos serving to lighten up the purplish tones of many of the Maples. Another notable feature was the way in which comparatively small plants were grouped in large baskets, one variety in each basket. In this way their collective effect could be well noted.

Mr. Carlton-White had a large and varied collection of clipped Box and Yew trees, which, artificial as they are, appeal to many. Some fine standard plants of golden Privet also formed a bright and attractive feature of this exhibit.

Messrs. George Jackman and Son, whose name in the culture of the Clematis is quite a household word, showed a group of well-flowered examples. Of those with large blossoms, which appeal to so many, special mention may be made of Mrs. George Jackman, white; Mrs. Hope, mauve; Rubella, dark purplish red; and Star of India, mauve purple. Small-flowered kinds, whose blossoms are borne in great profusion, were represented by Clematis Viticella alba, white; C. V. kermesina, red; and C. Flammula rosea, a pink form of the well-known C. Flammula.

Clipped trees were also freely shown by Messrs. William Cutbush and Son, Highgate. This firm has for several

years exhibited them freely and done a good deal towards making them popular.

Pigmy trees were largely shown by Messrs. Barr and Sons, King Street, Covent Garden, the little specimens being all in good health. Many different subjects were represented, but the bulk of the collection consisted of Retinosporas and the Japanese Larch.

The Yokohama Nursery Company, Limited, Craven House, Kingsway, also showed a collection of dwarf trees. These were in many cases grouped together so as to form miniature gardens, with the many strange accessories dear to the Japanese.

FRUIT AND VEGETABLES.

Messrs. James Veitch and Sons, Limited, Chelsea, showed fruit trees in pots of the high quality and excellence that we have learnt to expect from this long-established firm. The background of the exhibit was filled with well-trained Peach and Nectarine trees, all heavily cropped. Nectarine Lord Napier and Peaches Royal George and Hale's Early being noticeable. The collection comprised Pears Souvenir du Congrès and Marguerite Marillat, Apples James Grieve and Lady Sudeley (both in capital form), Plums Early Transparent Gage, Oullin's Golden, Denniston's Superb, Brandy Gage and Early Green Gage. Of the most highly-coloured fruits, Peaches Peregrine and Apple Lady Sudeley were prominent.

The collection of vegetables from the Hon. Vicary Gibbs, Aldenham House, Elstree, was one of the finest we have seen, and did justice to that able gardener and exhibitor Mr. Edwin Beckett. The Cucumbers Ideal, Model and Improved Telegraph were shown in perfect condition, and the same may be said of the fine selection of Tomatoes, including Peach, Duke of York, Perfection, Sunrise and Large Yellow. Cauliflowers Forerunner and Early Emperor, with Cabbages Ellam's Early and Early Heartwell, were neatly arranged in the background. Peas Quite Content and Duke of Albany were perfectly fresh, the pods large and well filled. Of the root crops the Turnips and Carrots were so regular in outline and uniform that they might have been turned out by machine. The Potatoes Duke of York, Royalty and Monarch were likewise fine. The whole exhibit was admirably staged and of surpassingly high quality.

Messrs. Whitelegg and Page, Chislehurst, Kent, showed the Newberry, a new fruit, the result of crossing the well-known Loganberry and Raspberry Superlative. The fruits are unusually large and of Raspberry flavour. Canes many feet in length showed the prolific manner in which the fruit is produced.

Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, had an exhibit of Figs in pots, all bearing heavy crops. The varieties shown included St. John's, Marseilles, Brown Turkey and White Ischia.

A collection of about two dozen Pineapples was sent by Lord Llangattock, The Hendre, Monmouth. The fruits were uniform in size and beautifully finished, and reflected credit upon Mr. T. Coomber, the gardener. These fruits are now so little grown in this country that it came as a pleasant surprise to see this fine collection.

From Laxton Brothers, Bedford, came a superb collection of Strawberries. Of the varieties shown the following were remarkably fine: Sir J. Paxton, The Bedford, Laxton's Bedford Champion (of exceptional size and colour), Laxton's Profit, Laxton's Reward, Royal Sovereign, Laxton's Epicure, Mainerop, President, Givon's Late Prolific and Utility. Two new varieties, namely, The Earl and King George, were shown, the former an improved "Vicomtesse" and the latter a fine early forcing variety, the result of crossing Royal Sovereign with Louis Gauthier.

S. Heilbut, Esq., The Lodge, Holyport, Maidenhead (gardener, Mr. Camp), sent a number of Plums and Cherry trees in pots, all bearing heavy crops. A large tree of the Black Cherry, Bigarreau Noir de Guben, occupied the centre. Other Cherries that were freely laden were Bigarreau Napoleon, Emperor Francis and Bigarreau Noir de Schmidt. Of the Plums, Mrs. McLaughlin Gage and Early Transparent Gage were very fine.

SUNDRIES.

Horticultural sundries, as usual, played a very important part at this exhibition. The larger displays were arranged at intervals in the open, and others in the special tent reserved for this purpose.

In the Tent.

A large and varied display of the famous Carlton insecticides and fertilisers was staged by Messrs. Walter Voss and Co., Limited, Glengall Road, Millwall, and some notable examples of seedlings grown with and without partial soil sterilisation by Creol, illustrating the benefits derived from adopting this method.

Messrs. H. Pattisson and Co., Greyhound Lane, Streatham, had their usual display of horse boots in various sizes, and several useful garden tools on show.

Acme labels, exhibition boxes and all descriptions of wire trainers and frames required for garden use were prominently displayed by Mr. John Pinches, Crown Buildings, Camberwell, who had a most interesting stand.

Messrs. Abbott Brothers, Southall, showed the Osterley table tray, cake stand and honey spoon.

Lawn sand and weed destroyers were arranged by Messrs. A. J. Barbour and Co., Upper Fontaine Street, Leeds.

Many well-known specialities in fertilisers, insecticides, weed-killers, &c., were arranged by Messrs. Joseph Bentley, Limited, Barrow-on-Humber, Hull.

Messrs. Barr and Sons, King Street, Covent Garden, showed a very interesting and varied display of garden requisites, including fertilisers, tools, sprayers, garden labels, bulb planter, &c.

Weed-killers, insecticides and fungicides, together with handy spray pumps, were shown by Messrs. William Cooper and Nephews, Berkhamsted, in great variety.

A useful selection of garden knives, scissors and trimmers was staged by Mr. A. Cunliffe, Kenyon, Fulham, S.W.

The Elsenham Jam Company, Elsenham, made a useful display of preserved fruits, jams and lavender water.

French garden requirements of every description were shown by the French Cloche Company, Caxton House, Westminster, S.W., who have long made the equipment of French gardens a speciality.

Garden frugs of useful design and light construction were shown by the Garden City Frug Company, Norwich.

Liquid Gishurst compound, fibre, beetlecute, &c., were staged by Mr. F. Hickson, Anerley Hill, Upper Norwood.

Jeyes Sanitary Compound Company, 64, Cannon Street, E.C., had their stand of well-known horticultural preparations and sprayers.

Mr. A. Key, Norwich, displayed the result of fertilisers on a miniature lawn.

The Lamp Pump, a very cheap and effective means of raising water for gardens and glasshouses, was shown by the Lamp Pump Engineering Company, Carey Street, Westminster, S.W., and should commend itself to anyone requiring an easy means of raising water.

Mushrooms and mushroom spawn were shown in a most interesting manner by Messrs. J. Pither, Limited, Cowley Road, Uxbridge.

A motor hoe, driven by petrol, which should prove a useful article where large areas have to be dealt with, was staged by Mr. C. W. Polito, Gracechurch Street, E.C.

Rustic table decorations, in many interesting and varied designs, were shown by Mr. Robert Sydenham, Birmingham, and greatly admired.

Specimens of continuous cloches were arranged to advantage by the Three C.'s Company, Dale Street, Liverpool, together with useful garden handlights.

Mr. C. J. Wakefield, Wilton Road, S.W., had a useful exhibit of "Floral Aids," designed to assist in the economic arrangement of cut flowers.

The well-known garden fertiliser, Hop Manure, was staged by Messrs. Wakeley Brothers and Co., Limited, Honduras Wharf, Bankside, S.E. This is a most effective and clean manure, which is the only real substitute for stable manure upon the market. Garden vases were also shown by the same firm.

Mrs. H. E. Webb, Odstock, Hanwell, showed specimens of bird-nesting boxes and modern feeding appliances.

*** *Owing to pressure on our space we are compelled to hold over the remainder of the report of the Sundries.*

OFFICIAL LIST OF AWARDS.

Gold Medals.—The Right Hon. Lord Llangattock for Pineapples; Sir Randolf Baker, Bart., for Sweet Peas; the Hon. Vicary Gibbs (gardener, Mr. E. Beckett) for vegetables; Messrs. Blackmore and Langdon for Begonias; Messrs. H. B. May and Sons for exotic Ferns; Messrs. Paul and Sons for Roses; Messrs. William Paul and Son, Waltham Cross, for Roses; Messrs. Sander and Sons for Orchids; Messrs. Sutton and Sons for Sweet Peas; Messrs. James Veitch and Sons, Limited, for fruit trees in pots; Messrs. James Veitch and Sons, Limited, for Chinese plants; Messrs. R. Wallace and Co. for an ornamental water garden; Messrs. Charlesworth and Co. for Orchids; and Messrs. Dobbie and Co. for Sweet Peas.

Cups.

Coronation Cup.—Messrs. Sander and Sons, St. Albans, for Orchids.

Silver-gilt Cups.—Mr. James Box for a water garden, Sweet Peas, &c.; and Mr. L. R. Russell for stove plants, shrubs and Irises.

Large Silver Cups.—Sir Jeremiah Colman, Bart., for Orchids, Carnations and Roses; Messrs. William Cutbush and Son for herbaceous plants, cut trees and flowering plants; Messrs. G. Bunyard and Co., Limited, for Roses and hardy flowers; and Mr. Charles Turner for Roses.

Silver Cups.—Messrs. Mansell and Hatcher, Limited, for Orchids; Messrs. Stuart Low and Co. for Orchids, Roses, Carnations, New Holland Plants and fruit; Messrs. J. Piper and Son for a formal garden, rock and water plants, Fuchsias, Japanese trees, &c.; Messrs. J. Carter and Co. for a water garden and flowering plants; Messrs. J. Veitch and Sons, Limited, for flowering plants, Bay trees, Orchids, &c.; Messrs. Barr and Sons for flowering and foliage plants, and a herbaceous and water garden; Messrs. W. and J. Brown for Roses and herbaceous plants; Mr. M. Prichard for herbaceous, alpine and bog plants; and Mr. A. Gwillim for Begonias and herbaceous plants.

Standard Cups.—Messrs. Stuart Low and Co. for Orchids; Messrs. Peed and Son for Caladiums and flowering plants; Mr. Amos Perry for herbaceous plants, alpines, Ferns, &c.; Messrs. G. Jackman and Son for Roses, herbaceous plants and Clematis; J. S. Arkwright, Esq., for Lychnis Arkwrightii; and Messrs. W. Fromow and Sons for Japanese Maples.

Silver-gilt Hogg Medal.—S. Heilbut, Esq. (gardener, Mr. Camp) for fruit trees in pots.

Silver-gilt Knightian Medal.—Messrs. Laxton Brothers for Strawberries.

Silver-gilt Flora Medals.—Mr. S. W. Flory for Orchids; Messrs. J. King and Sons for Sweet Peas; Messrs. G. and A. Clark, Limited, for herbaceous and aquatic plants; Messrs. Baker's for herbaceous and alpine plants; Mr. B. E. Bell for Carnations; Mr. H. Burnett for Carnations; Mr. C. Engelmann for Carnations; Messrs. F. Cant and Co. for Roses; Messrs. B. Cant and Co. for Roses; Hobbies, Limited, for Roses; Wilfred W. Gott, Esq., for Carnations; and Messrs. J. Cheal and Sons for an ornamental garden.

Silver-gilt Banksian Medals.—Mr. G. Reuthe for herbaceous and alpine plants and shrubs; Messrs. S. Bide and Sons, Limited, for Sweet Peas; Messrs. E. W. King and Co. for Sweet Peas; Messrs. Gunn and Sons for Phloxes; Messrs. Harkness and Sons for herbaceous plants and Spanish Irises; Mr. G. Prince for Roses; Messrs. Fred Smith and Co. for herbaceous plants and flowers; Messrs. G. Stark and Son for Sweet Peas and Kniphofias; Rees, Limited, for alpines and hardy plants; the Right Hon. Lord Burnham (gardener, Mr. G. Johnson) for Carnations; John Forbes, Hawick, Limited, for summer-flowering plants; Mr. H. J. Jones for Phlox and Canterbury Bells; Messrs. Thomas S. Ware, Limited, for Begonias; and Mary Countess of Ilchester for Sempervivums and Saxifrages.

Silver Flora Medals.—Mr. H. Dixon for Orchids; Messrs. J. Veitch and Sons, Limited, for Orchids; the Rev. Chalmers-Hunt for Roses, Sweet Peas and vegetables; Messrs. Phillips and Taylor for water garden and herbaceous plants; Messrs. Whitelegg and Page for alpines; Robert Sydenham, Limited, for Sweet Peas; Messrs. R. and G. Cuthbert for Humea elegans and Spiræa; Mr. James Douglas for border Carnations; the Guildford Hardy Plant Nursery for herbaceous plants; Mr. T. R. Hayes for Heaths and alpines; Mr. H. Hemsley for Antirrhinums and rock garden; Mr. Mattock for Roses; Mr. Notcutt for Roses; Mr. Reginald Prichard for herbaceous plants; and Mr. Frank Lilley for Gladioli and Sparaxis.

Silver Banksian Medals.—Mr. E. V. Low for Orchids; Mr. James MacDonald for exhibit of Grasses; Mr. Carlton-White for clipped trees; Messrs. Bath, Limited, for Roses and herbaceous plants; Mr. Webster for Sweet Peas; Messrs. Kelway and Son for Delphiniums, Sweet Peas, &c.; Lady Northcliffe (gardener, Mr. J. Goatley) for Crassula coccinea; Messrs. Carter Page and Co. for flowering plants; Messrs. G. Bolton and Son for Roses; Mr. Howard Crane for Violas and Violettas; Mr. Walter Easlea for Roses; Mr. Clarence Elliott for alpines; Messrs. G. Gibson and Co. for herbaceous plants; Mr. G. W. Miller for herbaceous and small plants; Messrs. Morse Brothers for Roses; Mr. W. H. Page for flowering plants; Messrs. Watkins and Simpson for Antirrhinums; Messrs. W. and C. Bull for herbaceous flowers; the Wargrave Plant Farm, Limited, for herbaceous flowers; and Messrs. Godfrey and Son for flowering plants.

Certificate of Appreciation.—Mr. Hemsley for work in raising new Antirrhinums.

Awards to Horticultural Sundries.

Silver-gilt Banksian Medals.—Messrs. T. Crowther and Son for ornamental stone and iron work; and Messrs. Gamage and Co. for garden tents, &c.

Silver Banksian Medals.—Messrs. Abbott Brothers for Osterley table tray, &c.; Messrs. Benton and Stone, Limited, for spraying machines, &c.; Messrs. Castles for garden furniture; and Messrs. Liberty and Co. for Japanese garden ornaments, &c.

Bronze Banksian Medals.—Messrs. Barr and Sons for tools and implements; Messrs. J. Bentley, Limited, for horticultural chemicals; Mr. John Bradley for Bunty tea-house; Miss Edith Fisher for water-colour drawings; Four Oaks Spraying Machine Company for spraying machines; Messrs. Heathman and Co. for ladders, hose, &c.; Mr. Robert Hughes for water-colour drawings; Miss Mitchell for garden baskets; Mr. John Pinches for labels, exhibition boxes, &c.; Messrs. W. Voss and Co., Limited, for insecticides; and Messrs. E. A. White, Limited, for insecticides, sprayers, &c.

AWARDS TO NEW PLANTS.

Orchid Committee.

First-class Certificates.—Miltonia Sanderæ, from Messrs. Sander and Sons, St. Albans; Miltonioda Harwoodii Fowler's variety, from J. G. Fowler, Esq., South Woodford; and Odontioda Brewii, from Messrs. Charlesworth and Co., Hayward's Heath.

Awards of Merit.—Cattleya Mossiæ Dreadnought, from Messrs. Sander and Sons; Odontioda Wilsonii Le Président, from Messrs. Charlesworth; Cattleya Serenata, from Messrs. Mansell and Hatcher; and Cattleya Mossiæ Olympia, from Messrs. Charlesworth and Co.

Fruit and Vegetable Committee.

Cultural Commendation.—Mushroom Bide's Market, from Messrs. Pither, Limited, Uxbridge.

Awards recommended at Wisley, June 24, and approved by the Council on July 1:

First-class Certificate.—Strawberry Connoisseur, from Messrs. Laxton.

Awards of Merit.—Pea King of the Dwarfs, from Messrs. Sutton; Pea Superb, from Messrs. Laxton, Bedford; and Pea No. 3,879, from Messrs. Hurst, Houndsditch.

Highly Commended.—Pea Hundredfold (award of merit, 1910), from Messrs. Sutton; and Pea Snowdrop (award of merit, 1908), from Messrs. Carter.

Floral Committee.

First-class Certificates.—Adiantum trapeziforme Queen Mary, from Messrs. May; and Magnolia Delavayi, from Messrs. Veitch.

Awards of Merit.—Adiantum siebertianum and Polypodium Mayi cristatum, from Messrs. May; Rose Ophelia, from Messrs. W. Paul, Waltham Cross; Nepenthes Lewis Bradbury and N. atropurpurea, from Messrs. J. Veitch; Iris Kæmpferi Morning Mist, from Messrs. Wallace; border Carnations Virginia and The Baron, from Mr. J. Douglas; Roses Ulster Standard, Muriel Dickson and Mrs. Godfrey Brown, from Messrs. Hugh Dickson, Belfast; and Erigeron hybrida Pink Pearl, from Mr. A. Perry.

TREES AND SHRUBS.

THE WISTARIAS AND HOW TO GROW THEM.

ALTHOUGH the species of Wistaria are few in number, they are perhaps the most generally useful of all ornamental woody climbers, for they can be put to many uses and are suitable for planting in many parts of the British Isles. No climber is seen to greater advantage when grown over a pergola than either of the Wistarias, the long, pendulous racemes of flowers borne by these plants peculiarly fitting them for the purpose; while they are equally desirable for planting against the walls of houses, on trellises, or against medium-sized trees.

A peculiarity of the various kinds of Wistarias is their happy manner of adapting themselves to widely different circumstances. In some cases they are found clothing walls 30 feet high, their branches extending to a length of 100 feet or more, whereas in other instances they appear as quite dwarf, stunted bushes; but in either case they bloom with remarkable freedom. This versatile character is due in a great measure to their partiality for severe pruning, and it has often been noted that after a stunted, spur-like condition of the secondary branches has been produced by constant pruning, the flowers are borne with extraordinary freedom. In this way it is possible to cultivate the Wistarias on quite low walls, whereas if they disliked severe pruning it would only be possible to grow them in positions where there was abundance of space. Japanese and Chinese gardeners have taken advantage of their indifference regarding severe pruning, and have for many years grown them as quite dwarf bushes. Examples of this method of culture were prominent at the Royal Horticultural Society's Exhibition at Chelsea, for a group of well-flowered specimens ranging in height from 2 feet or 3 feet to 8 feet or 10 feet was a very noticeable feature. Such plants were also used with effect in the Japanese Garden which was such a popular adjunct to the Japan-British Exhibition a few years ago.

During the last ten or twelve years bush Wistarias have been extensively used for forcing for greenhouse decoration in spring, and for that work they possess a quality which is shared by very few other kinds of shrubs, viz., that they may be grown in the same pots for a number of years without serious signs of deterioration and continue to bloom regularly.

Bush Wistarias are sometimes used with effect as lawn plants, where, even if they are not kept rigidly spurred back, very ornamental groups may be formed by placing a number of Oak posts or iron rods 10 feet or 12 feet high in the ground and connecting them with cross-bars. The shoots are then trained over the supports and the side shoots spurred in.

When planted against a wall, it is always an advantage if an arrangement can be made so that the branches stand clear of the wall. This may be accomplished by encouraging a spurred system of growth on the secondary branches, or, where a verandah occurs, the main branches may be trained along the edge. Thus arranged, the inflorescences hang quite clear of the wall and produce a similar effect to that depicted in the accompanying illustration.

The Best Soil.—The Wistarias make most satisfactory progress when planted in well-drained, loamy soil. They may be propagated by layering the branches in spring or by grafting upon sections of root. Care must be taken during the early stages of growth to prevent the shoots becoming twisted together, for, once they become badly entangled, it is almost impossible to separate them without injury. Train a sufficient number of branches into position to cover the available space; then check the remaining branches.

How and When to Prune.—The first pruning may be carried out early in July, cutting the secondary branches back to within three or four buds of the base. In September, shoots which have appeared during the interval may be pruned back also. Wistarias are long-lived plants, and there are numerous specimens in the country which are upwards of fifty years old.

Wistaria chinensis is the commonest and most widely-grown species. A native of China, it is said to have been originally brought to England by Captain Robert Welbanke in May, 1816. The plant is too well known to need a lengthy description, for its pinnate leaves and pendulous racemes, 8 inches to 10 inches long, of fragrant, mauve flowers are well known to everyone. Its white variety is also an excellent plant, but flore pleno, a form with double flowers, is less desirable than the type. There is also a form with variegated leaves, which is of no special interest. Throughout the country numerous very large plants are to be met with, but one of the most effective displays the writer has seen was noted a year or two ago a few miles out of Exeter. There the station-master's house, waiting-rooms and other offices on a country station were quite covered with this plant in full flower.

W. multijuga.—This also is a Chinese plant, but it has been grown by Japanese gardeners for a very long period, and is the plant which is so popular with Japanese and Chinese artists, its racemes frequently being depicted on screens and pottery. The accompanying illustration of a plant of this species growing upon the residence of Mrs. Godfrey Pearse at Taplow, Bucks, is sufficient evidence of its ornamental character. Its great difference from W. chinensis lies in the fact of its inflorescences being very much longer. As a rule, they are anything between 2 feet and 4 feet in length. When grown on a pergola, the full beauty of the inflorescences is apparent. The type has somewhat deeper-coloured flowers than W. chinensis, but there are forms with purplish and white blossoms. Of these the white-flowered variety is the best, and few more beautiful objects can be imagined than a well-flowered group. The racemes are shorter than those of the type, but are from 1 foot to 2 feet long.

A BEAUTIFUL PLANT OF WISTARIA MULTIJUGA IN MRS. GODFREY PEARSE'S GARDEN AT HITCHAM LAND, TAPLOW, BUCKS.

W. frutescens is a species from the United States. Its leaves are 9 inches or more long, and the lilac purple flowers appear in racemes from 4 inches to 8 inches in length. It was introduced about 1724, and blossoms later than the Chinese plants. The variety flore albo has white flowers; albo lilacina, pale lilac blossoms; and purpurea and magnifica, purplish flowers.

W. brachybotrys, a native of Japan, is a weaker-growing plant than the others. Its bluish or mauve coloured flowers are borne in short, rather dense racemes later than those of the better-known species. White and rose coloured varieties of this species may be obtained. W. D.

THE ROSE GARDEN.

SOME NEW AND LITTLE-KNOWN RAMBLER ROSES.

As novelties of these delightful Roses appear annually in large numbers, one is sensible of a great desire for a more extended garden, so that space could be found for them. One hesitates to discard old friends, and yet how can we have the newer varieties? It is fortunate for many of us that it is not essential to grow these Roses solely upon arches. They appear equally as charming grown as pillars, or even as isolated bushes. In my rambles through large gardens, I frequently see many positions unoccupied where I should plant them. Given good, prepared holes some 3 feet in depth and 2 feet in width, they thrive admirably. I have numbers of them so growing, each about six feet apart, and they are never wanting in charm, even when bloom has ceased. A delightful new variety is

Grafin Marie Henriette Chotek, obtained by crossing the Farquhar Rose with Richmond, and it has inherited a lot of the colour of Richmond. With me plants budded last summer are now (June 12) a mass of bloom, the blooms being very shapely and produced in large bunches. It cannot fail to be one of our most useful ramblers. This Rose must not be confused with another named Grafin Chotek. Another lovely variety is

Fraulein Octavia Hesse. It is a wichuraiana with all the beautiful glossy appearance in foliage of Alberic Barbier, but with a larger and more refined bloom, quite waxy in texture, and of the palest creamy white. This Rose, I believe, will become as great a favourite as Alberic Barbier. It flowers about mid-June. A variety that has pleased me much is

Silver Moon, which hails from America. It has immense single creamy white blossoms, resembling the Hybrid Tea Simplicity in size, and with charming, glossy foliage. It must be grown by all who admire single Roses; and who does not?

Francois Juranville, although not exactly new, is one of the loveliest and most effective. The buds are so freely produced, and the rich rose colouring of bud and open bloom combine to make a grand display. It flowers in early June, and is seen to the best advantage as a pillar or weeping standard.

Aviateur Bleriot is as yet the richest orange yellow we have, superior to Shower of Gold and Klondyke in colour, although it is rather wanting in form. Yet in the mass its orange-coloured buds are very charming, and it deserves to be widely grown.

Alexandre Girault is a colour most unique in the wichuraiana class, a deep carmine with rich orange yellow at the base.

Mrs. M. H. Walsh, Lady Blanche and Sander's White are all really good. I have not yet been able to compare them to ascertain which is best, but I rather fancy the first named will prove to be the finest trusses. All three are pure white, so that White Dorothy will soon have to take a lower position.

Eisenach and Sodenia are good rich colours, the former having single blooms and the latter double, and both will be very welcome.

Sylvia will certainly be wanted in every garden. It yields huge clusters of lemon white, double flowers, is very fragrant and perpetual flowering, and a true wichuraiana in habit.

Ethel is a very dainty variety, yielding quantities of flesh pink blooms, which are gracefully borne upon the plant.

Coronation, with its flakes of white on a scarlet ground, is most showy, and as it comes earlier than Excelsa, should prove very valuable.

Joseph Liger has very double flowers of a pale canary colour, tinted pink. It is one of the most shapely of all and quite charming, as beautiful as a Tea Rose.

These, then, are a few of the best of recent introductions. At present we are deficient in good yellows that maintain their bud colour. Even Shower of Gold will change to nearly white. I want to see a golden yellow Dorothy Perkins. Who will be the fortunate raiser of it?

ROSE BEAUTE DE LYON.

How can one describe the colour of this glorious Rose! The raiser, M. Pernet-Ducher, describes it as coral red, slightly shaded with yellow. I can even detect more shades in its glorious blooms than the raiser has done, for in the blooms before me there is a rich orange shading, with just a dash of pinkish rose on the outer petals. When fully expanded the effect is remarkable. How I wish it were perpetual. It belongs to that group of Pernetiana Roses more nearly resembling Soleil d'Or in habit, lusty growths with huge prickles and foliage of a lovely bright green colour; but there is no perpetual blooming in the strict meaning of the term, although we obtain a few blooms throughout the summer and autumn. The Rose has the habit of producing its blooms on short stems all the way up a growth, and the top buds open first, although fast followed by the others, thus making from one plant a feast of colour much wanting in our gardens.

Beauté de Lyon opens early. With me it was in full bloom by the end of May, and I could cut hundreds of the charming flowers on any one morning. I am not surprised the French people are asking much for this Rose, and I predict that it will be very popular in our own country for planting in bold beds well isolated, just as one should plant that other delightful early bloomer Conrad F. Meyer and its white sport Nova Zembla; in fact, the trio would make a most lovely group of themselves. Beauté de Lyon makes a superb standard, and it is almost impossible to imagine the effect of a five year old tree well tied out so as to make a spreading head. I should say it is from this Rose or its parents that we owe the wonderful colour in Mme. Edouard Herriot, the most sensational Rose of modern days.

DANECROFT.

ROSA SINICA ANEMONE ON A SOUTH WALL IN A SURREY GARDEN.

ROSA SINICA ANEMONE.

THIS beautiful single Rose, with silvery pink blooms and bright, shiny foliage, is flowering with unusual freedom this year at Clandon Park in Surrey, where it thrives amazingly on a high wall facing due south. The fine example illustrated on this page was planted about eight years ago, and at the present time it has not only exceeded the heigh of the 12-feet wall, but it covers a space 32 feet in length. It is growing in a well-prepared border of good sandy loam, and receives no special treatment beyond the cutting away of weak and dead wood in winter. Not only is this Rose suitable for a south wall, but for clothing tree stumps in a sheltered position it is invaluable. This variety is sometimes referred to as the Cherokee Rose, but it is not the only Rose that lays claim to this title.

GARDENING FOR BEGINNERS.

HOW AND WHEN TO BUD ROSES.

THE budding of Roses upon various stocks is simplicity itself as an operation, but somewhat difficult to describe. A few minutes spent in closely watching a skilled hand will go much further than the most elaborate paper upon the subject. This is why I have appended

PREPARING BUDS FOR INSERTION.

a few rough sketches to help those who have not the opportunity of a practical lesson.

Budding is one of the most important points towards successful Rose-growing, and is the main method of propagating. July and August are the most suitable months for the operation, but no set time can be given, seeing so much—in fact, all—depends upon having both Rose bud and the stock in a suitable condition for the work.

In the illustrations I have dealt with stocks intended for standards, which are usually tall Briar stems collected from the hedgerows. But I may say at once that the budding of dwarfs is upon the same principle, and that, whatever the stock may be, it is essential to work the Rose buds as closely to the base of dwarfs on the one hand, or the main stem of standards on the other, as can be managed.

Selection and Preparation of the Buds.—It is of vital importance that the bud should be in the right condition, *i.e.*, about half ripened. A good general guide to this state is the easy snapping off of the Rose thorns. Buds from below an expanded flower, or where one has been cut from, are generally fit. But the real proof of fitness lies in the way the small piece of Rose wood can be removed from the bud after it has been cut away from the shoot of growth, as shown in Fig. 1a. In the sketch I do not show the longer string of bark that is generally removed with the bud (see Fig. 2a). This facilitates the removal of the Rose wood (Fig. 2b). Now, if the seat or heel of the bud is prominent and in such a condition as to permit of its lying close upon the exposed wood of the stock, which we shall presently come to, it is fit for use. Should the Rose eye or bud be too forward or the reverse, the root or seat of the bud will tear out and leave a small hollow when the small portion of Rose wood is removed. Such a bud is absolutely useless. The leaves should be cut off, as in Fig. 1b, directly the shoot is removed from the parent Rose, otherwise there is much loss of sap, which dries up the bud and prevents the clean removal of the undesired portion of Rose wood. Always keep the Rose buds moist, but not over-wet, at the seat when extracted and prepared for insertion.

Inserting the Bud.—In Fig. 3a we find a shoulder of a standard Briar which has had a cut about two and a-half inches long made lengthwise in the bark. This should never be more than just through the bark, any injury to the wood beneath being greatly against a successful "take," and often quite fatal to the survival of the Rose bud. Lift or prise up the bark carefully with a thin piece of ivory or metal, generally found at the end of a handle of a budding-knife. If you do not possess such a knife, a piece of hard and thinly-shaven wood may be used. Avoid, as far as possible, any disturbance of the glutinous sap lying between the bark of the stock and its wood. The Rose bud (Fig. 2) should be cut off at the dotted lines, and then gently inserted beneath the sides of the raised bark, as depicted in Fig. 3b. Slip the bud well down to the bottom of the cut and close to the main stem of the standard stem. In Fig. 4 we have a dwarf stock with the bud inserted, which should be as near to the ground-line and base of the stock—in fact, upon the crown of roots—as possible. It only remains to tie in firmly, without constriction, as in Fig. 3c, taking great care to have the seat of the bud firmly upon the wood of the stock.

So far as the budding of dwarf stocks is concerned, it is advisable to draw soil around these for a few weeks previous to operating. This conduces to a softer condition of the bark and easier lifting of the same. Should the bark be in the least obstinate when lifting, do not upon any account force it, but water well and try again a week or so later, for the whole of the operation must go smoothly and quickly, without any semblance of force or bruising. You will find, too, that any cutting away of superfluous growth upon the stocks will cause a check of sap that will make the bark cling for about a week, so do not interfere with the growth just previous to or at the time of budding.

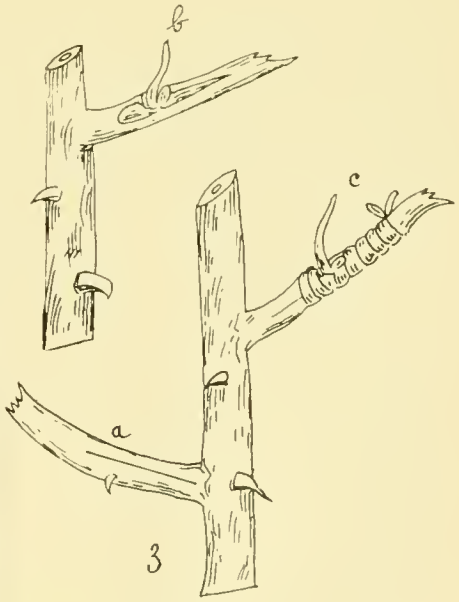
After-treatment.—When the bud is set, which will be in two to three weeks, keep a look-out for any undue constriction caused by the swelling of the stock. Sometimes this is very rapid, in which case the tie must be slightly loosened, if not entirely released. Raffia is about the best and cheapest tying material, and can be readily freed by cutting through with the point of a knife on the side opposite to the Rose bud. Take care only to cut through the tying material; any cutting of the bark will only mean a widening gap that takes time and sap to heal over. By three weeks, also, you should be able to discover whether your operation is a success or a failure; in the latter case the buds will have turned black, and the same stock or shoulder can generally be tried again a little beyond the first attempt. So long as one does not let the Rose bud get dried up, I have found fine weather more successful for the operation than showery weather, and it is never advisable to have water in the wound made to receive the bud. Have a sharp and clean knife, do the work with as little force and bungling as possible, and you should be successful in the majority of cases. As a rule, we do not interfere with the growth of the stock until the winter or early spring after budding, but a few of any straggling growths may be cut away after the bud is well set.

A. P.

LAYERING THYME.

FROM a few clumps of old plants a splendid batch of young ones may soon be obtained by judicious layering. The tendency of old plants is to produce a number of long, bare stems with young branches and leaves at the extremities. When these stems are layered with plenty of roots formed on them near the base of the young shoots, many quite bushy plants are the result. Mix together loam, leaf-soil, sand, road grit or old potting soils, and, having carefully spread out the clump of Thyme, place a shovelful of the compost in the centre. Then with one hand lift up the fringe of growing Thyme, and put some compost underneath with the other. Finish the work by putting more soil in the centre and pressing it down firmly. All that it is necessary to do now is to keep birds away and the new compost in a consistent state of moisture. When sufficiently rooted, the layers must be cut away from the parent plants and planted 18 inches apart in a new bed. This distance will allow them room to grow in without over-crowding.

AVON.



METHOD OF BUDDING ON THE SHOULDER OF A STANDARD BRIAR.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Flower-Beds.—Now that the plants in the beds are nicely established, less watering will be needed. The Fuchsias and a few other free-growing subjects must not be neglected. Ivy-leaved Pelargoniums, Fuchsias, Ricinus, Perillas, Melianthus and other quick-growing plants must be staked and tied as they require it, or the first heavy storm of wind and rain may do considerable damage.

Liliums and Gladioli that are throwing up their flower-stems must also be attended to, whether they are planted in borders or beds. Stake in as unobtrusive a manner as possible. One or two good soakings of liquid manure (not too strong) while the plants are growing will add materially to the quality of the bloom.

Narcissi and Darwin Tulips planted in beds for cutting purposes should now have ripened off sufficiently to warrant their being lifted. Dry weather is the best time to choose for this purpose, and, after lifting, the bulbs should be exposed to the air and wind for a few days to become perfectly dry, when they may be stored away in a dry, airy shed, preferably in trays similar to those used for seed Potatoes. Here they may remain till the time for planting.

Wallflowers.—Early-sown plants will soon be forward enough for planting out, although if the weather happens to be dry it is best to leave them till there is a likelihood of one or two days' rain or dull weather. Keep the hoe going between the rows in the seed-bed, and this advice is applicable in all cases where seedlings are being raised.

Myosotis.—Choose a day after rain to get this seed in, sowing it broadcast on a light piece of ground which has been nicely broken up and levelled. Though not difficult to raise, much seed is often wasted by burying it too deeply, and I prefer only to beat it into the soil with the back of a rake. There are many varieties used for bedding, but Royal Blue is perhaps the best for the purpose.

Plants Under Glass.

Layering Malmaisons.—Early-flowered plants will now be ready for layering. Good, healthy shoots only should be layered, and when the plants have too many shoots to allow of plenty of room between the layers, they should be reduced, or as the young plants make root they will become attenuated; also, there is more difficulty in preserving the roots when lifting. Lightly syringe in the morning and afternoon, giving a little shade during the hottest part of the day; this will keep the foliage in a good, healthy condition till the layers make root. Later batches may be layered as they go out of bloom; but it is imperative, to obtain good plants for early blooming, to get a batch layered as early as possible.

Perpetual-Flowering Carnations.—Plants nicely rooted in the flowering pots and intended for autumn blooming should now be gone over and stopped for the last time. Plants that may have been propagated late to increase the stock of newer varieties should be given their final potting at once; these, if stopped towards the end of the month, will come in for midwinter and early spring blooming. Syringe frequently to keep the plants clean, and spray regularly with an insecticide to keep the tips free from fly. Though the plants may take a fair quantity of water just now, over-watering is the worst possible thing for them, for though big, leathery-looking foliage may look well, it is not at all an essential for good quality flowers, and is certainly more liable to attacks of rust.

Stove and Greenhouse Climbers must be kept regularly tied, and plants such as Bougainvilleas and Allamandas coming into flower should be kept well watered and fed.

Propagation.—Small decorative subjects, such as Panicum, Selaginellas, Tradescantias and Fittonias, should be propagated regularly, these being very useful for surfacing large pots in the dwelling-house and as edging plants in the houses.

The Kitchen Garden.

Sweet Corn.—Plants of this should be growing freely if the weather keeps warm, and liberal waterings should be given; this will induce the cobs to swell up quickly. If grown slowly they are apt to become tough or hard before the cobs attain edible size.

Marrows and Gourds also are making rapid growth; in each instance they must be liberally supplied with water and manure. The Marrows should be cut in a young state, and not allowed to remain on the plants till they get old, or the further fruiting properties will be impaired. Gourds that are being trained up poles or pergolas must be regularly tied, and thinned if necessary, using a fairly strong, soft string for the purpose. This is especially necessary where the plants produce heavy fruits.

Leeks.—The earliest plants may have a little soil drawn up to them, but it is not advisable to cover them up too much at once; also provision must be made to keep the roots supplied with water, as they take a great deal of moisture out of the soil, without which it is impossible to obtain good results.

Onions.—This is a crop which pays for a little extra attention, and during dry weather the bulbs should be watered and fed fairly liberally; but the autumn-sown bulbs may not require much after this date, as they will soon begin to mature, and too much water sometimes induces them to split.

Fruits Under Glass.

Successional and Late Peaches must be kept regularly tied, and where these are coming on too fast, a little whiting or some other shading may be put on the glass, and so steady them somewhat. This shading is also an advantage in the case of Nectarines, some varieties being rather apt to burn slightly during a very hot spell, though to get a really good colour in the Peaches they must be exposed as much as possible to the light.

Hardy Fruit.

Peaches.—Early varieties, such as Amsden June and Hale's Early, are now swelling freely, and to ensure good flavour and texture in the fruit, liberal supplies of water and manure should be given, keeping the trees syringed daily, at least during hot weather. Keep all shoots tied or nailed in regularly, and expose the fruits as much as possible to light and air—in fact, treat them as though they were under glass—and in a favourable situation the fruits will be nearly as good in quality, if not so delicate in appearance, as those under cover.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Staking Annuals.—Where they are rather closely surrounded by high trees, some of the taller annuals, such as the Stock-flowered Larkspurs and Scabious, will be all the better for staking and tying, as a high wind might do much damage were this attention omitted.

Dahlias.—These are now growing freely and require close attention in the matter of tying, as their succulent stems are easily broken. At the risk of being charged with reiteration, I must again recommend binder twine, as for all strong-growing plants of a herbaceous nature it is so much superior to tarred twine or raffia, as it combines strength with softness. Where old tubers were planted, the growths will require thinning out.

Hoeing.—This work should have frequent attention. Plants refuse to thrive where the surface of the soil is allowed to become baked and hard; moreover, weeds at this season are persistent unless kept in check.

The Rose Garden.

Taking Notes.—July is the Rose month in the North, and is the best time for taking notes for future use. Special attention should be given to new introductions, noting their merits and defects, bearing in mind that a variety should not be condemned on one year's experience unless it has some obvious radical defect.

Feeding Teas.—In order to secure a good autumn crop of bloom, the Teas should have a little feeding. A light dressing with Thomson's Plant Manure will do all that is wanted. Run the hoe through the bed or border after applying the fertiliser.

The Rock Garden.

Propagating Phloxes.—The alpine Phloxes form one of the most valuable assets the owner of a rock garden possesses. In the subulata section there is great choice, from the pure white of Stellaria and The Bride to the deep rose of Daisy Hill and Vivid. Among other species, amœna, canadensis alba, c. Laphami and ovata all have much to recommend them. Cuttings of any of the foregoing may be put in from now till the beginning of September. Five-inch pots filled with sandy loam and surfaced with clean sand will be found suitable. Place in a shaded frame, such as that recommended for Pinks and Cheiranthus.

The Wild Garden.

Funkias.—I am more deeply impressed than ever with the beauty of the Funkias, especially subcordata and undulata foliis variegata. Dig a pit in the grass, 18 inches wide and the same depth, fill it with rich soil, plant a strong clump of either of the above in it, keep the grass mown round it, and in due time it will prove an object of great beauty.

Oreocome Candollei.—This is another graceful plant, with finely-cut, Fern-like foliage. It should be planted as recommended for Funkias. Rabbits are fond of its tender foliage, but if the garden is not rabbit-proof, a circle of dwarf wire-netting should be placed over the plant in the early part of the season.

Plants Under Glass.

Perpetual Carnations.—Where it is intended to grow on last season's plants which have finished flowering, the old flower-stems should be cut well back. Some of the surface soil should then be carefully removed, and the plants should receive a top-dressing of, say, two parts loam, one part old Mushroom manure, with a good dash of bone-meal and wood-ashes. Syringing in the morning and evening in hot weather will prove highly beneficial to the whole stock.

Top-dressing Calanthes.—The deciduous Calanthes are gross feeders, and will be much benefited by receiving a top-dressing of old cow-manure about this time.

Fruits Under Glass.

Vines.—In houses where the crop is ripe, dry conditions must obtain. In houses where the fruit is beginning to ripen, the border should be examined, and if there is any tendency to dryness, it should receive a good watering, as water must not again be applied until the crop is cut. This precaution and the sprinkling of the pathways daily for some weeks yet will do much to check the attacks of red spider.

Figs: Second Crop.—Where Figs were ripened early, a good second crop may be expected on the current year's wood. After from four to six fruits have been formed, the point of the shoot should be pinched out, in order to throw the vigour of the tree into the swelling fruits.

The Hardy Fruit Garden.

Loganberries.—Continue to train the young shoots as growth advances, and remove all superfluous shoots. Make sure that the crop is protected from the birds.

The Vegetable Garden.

Staking Late Peas.—This work must receive attention. If stakes are scarce, the last sowing may have a few twigs supplied to the plants to carry them on till the pods from the first sowing have been picked, when the stakes from it can be used again.

Broccoli.—The planting of this crop should be finished as soon as possible and any blanks in those previously planted be filled up.

Vegetable Marrows.—Watch for the appearance of female blossoms and duly pollinate them, as one cannot always depend upon this being done by natural processes. Thin out the shoots before those which are superfluous rob those that are to remain.

Turnips.—Thin succession crops and make another sowing of Early Milan for autumn use.

Salading.—This requires constant attention. Mustard and Cress should be sown weekly, Radishes fortnightly, and Lettuces every three weeks or so.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE UPKEEP OF LAWNS.

AS a constant reader of THE GARDEN, I see from time to time a good many articles and replies to correspondents upon this subject. Most of them are admirable, but there are one or two points upon which I venture to differ. I am old-fashioned enough to think that, at any rate upon strong soil, it is rather a mistake to destroy all the worms, for I think that they are useful in draining and aerating the soil, and also that they improve the soil. One of your correspondents suggests that they only bring up good soil to the surface which had better have been left where it was, but I take it that a certain amount of soil which passes through the worms is by this operation transformed from what was often poor subsoil into a valuable mulch for the roots of the grasses. Of course, golfers will have greens free from worm-casts, and I am not so sure about the value of worms on lighter soils; but I think it is a mistake to destroy them in lawns which are formed upon clay soil. Incidentally, I hear that in consequence of the increased use of worm-destroyers in and around London, a very large number of thrushes have been poisoned, and that this fine songster is in danger of being exterminated, leaving the less welcome blackbird to take his place.

Then as to top-dressing lawns, I see decayed manure, soil, &c., recommended to be applied in thicknesses varying from a quarter of an inch to an inch! I wonder if the writer ever dressed a lawn to the depth of an inch. He would, I think, be surprised at the quantity of soil which would be required, and I should be surprised if many of the finer grasses in the lawn ever survived the treatment. One very frequently sees superphosphate of lime recommended for lawns; but if you do not wish to have your lawn a mass of white Clover, you must not apply superphosphate.

Sometimes the what not-to-dos are as instructive as the what-to-dos; but lest I should be told it is more easy to criticise than to advise, I will say that on strong soil I give my tennis lawns a dressing of sand every winter, two cartloads to each lawn, spreading this as evenly as possible. In the early spring this is swept perfectly level and practically disappears, but it improves the grass and helps to make a firmer foothold for the tennis player. A little later in the spring about half a hundredweight of chemical manure (anti-Clover) is applied, which dressing is repeated in the autumn—the end of September, or October, according to the weather: this washes in with the first shower. For brushing in the sand we use a homely branch of an Elm sucker about eight feet or nine feet long, and we sweep the lawns with this to spread worm-casts in the early part of the season (of course, an extra long Birch broom would be equally effective). We do not roll much after March, and we never mow without the grass-box, for I think the grass cuttings, if left on the lawn for a mulch, do more harm than good, as fine grasses do not like much mulching. I almost ruined a lawn by mulching with stable manure one season, for the manure killed most of the finer grasses and encouraged the coarser ones.

Then as to weeds. Everyone who cares for a good lawn knows what a trouble they are, especially on new lawns and impoverished old ones. Some grumble at the cost of lawn sand, which is very effective if used properly; and more of us who are not quite so young as we were grumble at the backache which ensues from applying lawn sand a pinch at a time. For this class I have a fine remedy. I bought the other day a thing called Kilm, a tube containing some chemically-treated sand with a spike at the end of the tube; this one presses into the crown of a Plantain, Dandelion, or the root of a Buttercup, and a small quantity of the sand is released, which falls on the plant and burns it up. Having been idle through a sprained knee, I have found great delight in hobbling round my lawns and destroying a few weeds, for the lawns are not yet perfect, though I think Kilm is a perfect cure for weeds and backache, and I am sure that any lady gardener will be pleased with it. N.B.—Care must be used, as it is poisonous.

Lowdham. A. H. PEARSON.

THE KITCHEN GARDEN.

WHEN AND HOW TO GROW ENDIVE.

CULTIVATORS who have had some considerable experience with this valuable plant know how very important it is that more than one sowing of seeds should be made. In some seasons, sowings made on certain corresponding dates each year do not yield satisfactory crops of plants. In one year the latter may grow and form grand hearts; in another, they will prematurely bolt, or run to seed, and be quite useless. This will happen in the same district. Of course, seeds must be sown about ten days earlier in northern counties than in southern ones. In both cases it is advisable to make two sowings, the second about a fortnight after the first. If the resultant plants from the first sowing are too early, those from the second may be quite satisfactory.

Sow Broadcast Thinly.—A cool border should be selected on which to form the seed bed. Ground previously cropped with early Potatoes is generally the most suitable for both raising seedlings in and for the plants when finally put out. It will, in such cases, not be at all necessary to dig or manure the soil; simply fork it up and break the large lumps; then tread it down if of a light nature, but do not tread if it be of a heavy, retentive nature. Rake the surface with a wooden rake, finally drawing the rake in one direction. Sow the seeds broadcast and very thinly; some of them will fall into the shallow furrows left by the rake; then lightly draw the same tool across in the opposite direction, and the seeds will be sufficiently covered.

Transplanting the Seedlings.—In the meantime a larger bed must be prepared, in which the sturdiest of the seedlings should be transplanted, at a distance of 4 inches apart each way. Firmness, again, in the case of light soils, is essential.

The Final Planting.—Where the cultivator can command several positions in his garden he should put out plants in each, and not confine them to one. In every instance the plantations made should be compact, so that it will be convenient to cover the plants during frosty weather. Many are lifted by cultivators and placed in cool frames in low-lying districts, to prevent injury by frosts and excessive moisture, but as such accommodation cannot be found for all the plants, some covering material must be put on. When covered for blanching purposes the leaves must be perfectly dry, else the heart portion will decay. AVON.

ANSWERS TO CORRESPONDENTS.

RULES FOR JUDGING (*T. T.*).—The Royal Horticultural Society, Vincent Square, London, S.W., issues a code of judging rules, and this is doubtless the book to which you allude. It is procurable from the address given for 1s. 6d., post free, to judges, exhibitors, committees and officials. It is a publication of the utmost value, which cannot be too diligently studied.

LAWN CLIPPINGS (*L. K.*).—Lawn clippings decayed are useful manure, but on a heavy clay soil they are liable to add to the amount of water held, and render the soil wetter and colder. They would be less bad if added comparatively fresh, provided lime is present in the soil. A strong brine may be used for the purpose of killing weeds, and it is innocuous to domestic animals.

TROUBLESOME WEEVILS (*F. T.*).—The insect had disappeared from the box, but from your description we suspect it is a beetle called the Vine weevil or the clay-coloured weevil. Your best plan would be to spread a sheet under the affected plant and shake off the beetles after dark, or cause them to fall by shining a bright light upon them. The larvæ are extremely troublesome to roots of Ferns, Pelargoniums and other greenhouse plants, and it would be avoiding much danger of this kind to catch and kill the beetles now. The latter may be done quite easily by dropping them into a pail containing a little paraffin.

WOODLICE IN GARDEN (*E. M. C.*).—It is unusual for this pest to do much mischief in the garden, unless encouraged by rubbish or decaying woody stuff lying about. However, as the insects appear to have done some mischief, you had better place dry boards, slates or even small pieces of sacking, with cut strips of Potato, Carrot or such-like things beneath, for them to feed on. Examine these retreats nightly, and with the assistance of a kettle of boiling water you may dispose of large numbers. These things often harbour in the vicinity of garden frames, and if you have any such, lay other traps near them. This pest in large numbers is very destructive to all vegetable-life, and increases with great rapidity. Both the hedgehog and the toad will devour large numbers, and in the greenhouse more particularly we encourage the latter for its serviceability in this direction.

ERADICATING BISHOP'S WEED (*A. P. F. P.*).—The only sure way of eradicating this pest is by forking it out and burning it. No weed-killer could possibly reach it, owing to the underground spread of its roots, or, if it killed it, the roots of plants near would suffer in like degree. When digging cannot be done, the plant might be much weakened by plucking off every sign of leaf growth, and though the operation is a tedious one, some of the most insidious of the weed pests of the garden have been killed in this way. This, indeed, is the only method we know of impairing the vitality of the plant when the roots have been entangled with shrub roots. In autumn such plants could be lifted, washed clear of all soil, and the weed picked out. As every scrap, even to that of half an inch long, is capable of making a plant, nothing short of the most drastic methods, accompanied by much perseverance, are calculated to effect a clearance.

TACSONIA BUDS DROPPING (*H. B.*).—The Tacsonia, like some other climbers, is liable to drop its buds if it has unlimited root room, even if there is a prepared border for the reception of the roots. They will often run away therefrom into unsuitable soil, and then the buds sometimes drop. The same result might ensue if the roots were in a confined space and allowed to suffer from the want of water. If the plant is cut back hard every year, it would lead to the production of strong, soft shoots, from which few flowers could be anticipated. The greatest measure of success in flowering the Tacsonia is in the autumn to thin out any old or weakly shoots, especially where they are entangled into a close mass. This will allow of the ripening of the wood under the influence of light and sunshine. If the plant has covered its allotted space, the more vigorous shoots may be shortened back to keep it within bounds; if not, they may be allowed to remain entire. Providing the plant is in good condition, young shoots will in the spring be freely produced, and in the ordinary course of events they should flower well.

NAMES OF PLANTS.—*M. A. B.*—Rose Charles Lawson, a Hybrid Chinese. The Pink, though charming, is not a named variety.——*H. Upton.*—Callirhoe linearifoba. The Lupine appears to be a pretty seedling form of Lupinus polyphyllus, and is well worth growing.——*E. M., Parkstone.*—The Carnations are: 1, Rose Doré; 2, May Day; 3, Defiance; 4, Britannia.——*Adela Box.*—We believe it to be the old Noisette, Solfaterre.——*Fred Hobbs.*—Carpenteria californica.——*W. J. H., High Wycombe.*—Saxifraga tricuspidata and Oxyria digyna.——*Devonian.*—Cichorium Intybus (Chicory) and Brunfelsia calycina.——*Winton.*—1, Potamogeton polygonifolius; 2, Eriophorum angustifolium; 3, Orchis maculata; 4, Pedicularis palustris; 5, Drosera rotundifolia; 6, Polygala vulgaris; 7, Verbascum phœniceum variety; 8, V. phlomoides; 9, V. Chaixii.——*Bull, Hereford.*—1, Sedum roseum; 2, Campanula portenschlagiana; 3, Veronica Teucrium dubia; 4, Saxifraga trifurcata; 5, S. hirsuta; 6, Centaurea montana; 7, Heuchera micrantha; 8, Omphalodes verna alba; 9, Campanula latiloba; 10, Veronica virginica; 11, Campanula persicifolia alba; 12, Hemerocallis flava; 13, Pentstemon, garden seedling; 14, No specimen; 15, Pentstemon, garden seedling; 16, Saxifraga cordifolia; 17, Linaria purpurea variety.

SOCIETIES.

CITY OF LONDON ROSE SOCIETY.

THE first exhibition held in connection with the above society was opened by the president, the Lord Mayor, at noon on Thursday, the 26th ult. The display of Roses was particularly good, and surpassed even the most sanguine expectations. In the open classes some of the best Rose nurserymen in the United Kingdom contested, but it was the classes for members living within the eight miles radius of the Royal Exchange that proved most interesting, inasmuch as they demonstrated how well the Queen of Flowers can be grown in the vicinity of a great city. Owing to the demand made on our space by so many other shows, we regret that we are only able to publish particulars of the principal classes.

In the nurserymen's section Messrs. Alex. Dickson and Sons of Newtownards were first out of ten entries for forty-eight blooms, distinct, staging some superb examples. Second honours went to Messrs. B. R. Cant and Sons, Old Rose Gardens, Colchester, and Messrs. R. Harkness and Co., Hitchin, were third.

For twelve distinct varieties, three blooms of each, competition was equally strong, first honours falling to Messrs. G. and W. H. Burch of Peterborough, who had The Lyon Rose and Mrs. T. Roosevelt in superb condition. The second prize here went to Mr. George Prince, and third to Messrs. Alex. Dickson and Sons, Newtownards.

For eighteen Teas or Noisettes, Mr. G. Prince of Oxford was first with a very clean lot of flowers, his bloom of Molly Sharman Crawford being very fine. Messrs. J. Burrell and Co. were second and Mr. John Mattock third.

For eighteen bunches of decorative Roses, to be staged as naturally as possible, there was good competition, first prize going to Mr. John Mattock, Headington, Oxford, who had a beautifully clean lot of flowers, Duchess of Wellington and A. R. Goodwin being conspicuous. Messrs. William Spooner and Sons of Woking were second, having Mrs. Alfred Tate in fine form. The third position was filled by Messrs. Frank Cant and Co.

Class 5, for seven baskets of cut Roses, was well contested, Messrs. Chaplin Brothers of Waltham Cross being first with good Lady Hillingdon and General Macarthur. Second prize went to Messrs. Alex. Dickson and Sons, whose Queen Mary and Irish Fireflame were very charming. Mr. A. R. Hammond, Burgess Hill, Sussex, was third. This was a very beautiful class.

For twelve blooms of new Roses, Messrs. Alex. Dickson and Sons were first with the following: Mrs. Amy Hammond, Mrs. G. Preston, Mrs. Foley Hobbs, Edward Mawley, Alexander Hill Gray, Duchess of Sutherland, Mrs. Arthur E. Coxhead, Mabel Drew, Mrs. J. H. Welch, Mrs. H. Hawksworth, Lady Greenall and Lady Barham. The second prize went to Messrs. B. R. Cant and Sons, and third to Messrs. J. Burrell and Co.

In the open amateurs' section competition was good, the challenge cup offered for twenty-four blooms, distinct, being won by William Onslow Times, Esq., Bedford Road, Hitchin, whose flowers were large but rather soiled. Mr. Henry Balfour, Langley Lodge, Headington Hill, Oxford, was second, and E. F. Brown, Esq., Lynton, Sussex Place, Slough, third.

For twelve blooms, distinct, E. F. Brown, Esq., Lynton, Sussex Place, Slough, was first, his Dean Hole being very fine. Courtenay Page, Esq., Broad Street Place, E.C., was second, and E. Jackson, Esq., Rochford, Essex, third.

In the members' classes, the City of London Challenge Cup, for twelve blooms, distinct, went to H. L. Weltern, Esq., 16, Water Lane, E.C., for a superb dozen, the best of which was Yvonne Vacherot, which gained the medal offered for the best bloom in Classes 9 to 17. These Roses were a great credit to the exhibitor. Lewis S. Pawle, Esq., Stock Exchange, was second, and John Hart, Esq., third.

The metropolitan classes, open only to members who grow their Roses within eight miles of the Royal Exchange, were most interesting and well contested. The challenge cup for twelve blooms, distinct, went to E. H. Coxhead, Esq., of Streatham, who had a lovely bloom of William Shean. The second prize went to R. de Escofet, Esq., Dulwich, whose box contained the best bloom in Classes 24 to 29, this being Mrs. Myles Kennedy. Mr. de Escofet also won the challenge cup offered for nine exhibition Roses, distinct, with a fine lot of flowers.

A. C. Turner, Esq., 29, Great St. Helens, E.C., was the winner of the challenge cup offered for twelve bunches of decorative Roses, distinct, Lady Hillingdon and Gardenia being very fine. The second prize here went to H. L. Weltern, Esq.

The best bowl of cut Roses arranged with Rose foliage was shown by Mrs. A. C. Robinson, this being a delightful arrangement of Rose Mme. Abel Chatenay and foliage of Rosa rubrifolia.

The following Roses were awarded the National Rose Society's silver medals, offered for the best blooms in the show: Classes 1 to 6—H. Hartmann, a new Hybrid Tea of bright scarlet crimson colour, broad, shell-like petals and deep centre, shown by Messrs. B. R. Cant and Sons. Classes 9 to 17—Yvonne Vacherot, shown by H. L. Weltern, Esq. Classes 18 to 23—Avoca, shown by A. E. Stanger, Esq. Classes 24 to 29—Mrs. Myles Kennedy, shown by R. de Escofet, Esq.

ROSES AND SWEET PEAS AT BOURNEMOUTH.

LAST year the members of the Bournemouth Gardeners' Mutual Improvement Association held a small show for the purpose of raising funds for the benefit of the association. It was a great success. The competitive classes were open only to the members, but local nurserymen were cordially invited to stage non-competitive exhibits, and the response was most satisfactory. This year the members amalgamated with the council of the Bournemouth Horticultural Society, and arranged to hold a much larger exhibition and to invite nurserymen from a distance to show. The first date of the two days selected was June 25, "Alexandra Day" proving a very popular choice, as crowds of people visited the show, which was, in every way, most successful. Messrs. Carter, Raynes Park; Messrs. Webb, Stourbridge; Messrs. Dobbie, Edinburgh; Messrs. Keynes, Williams and Co., Salisbury; Messrs. George Cooling and Sons, Bath; Messrs. Watts and Sons, Limited, Bournemouth; Mr. J. Stevenson, Wimborne, Dorset; and Mr. Maurice Prichard, Christchurch, were the principal nursery firms exhibiting. The show was held at the Winter Gardens, not in the spacious pavilion, but in tents on the lovely lawn, which is surrounded by stately trees, including Pines, and charming shrubs. In one tent the members of the Bournemouth Gardeners' Association staged their competitive exhibits, and in the large tent the various nursery firms staged theirs.

THE GARDENERS' TENT.

Mr. W. Shave, Wimborne, had the best table decoration of Sweet Peas, Mr. Heath (gardener to G. G. Russel, Esq., Bournemouth) being second. The last-named exhibitor won in the class for a table decoration of Roses; Mr. Evans (gardener to G. J. Fenwick, Esq., Crag Head, Bournemouth) was second. Messrs. Heath, Weaver (gardener to Major Tinker, Christchurch) and Evans won in the order named for a basket of Roses. Messrs. Shave, C. Pearce (gardener to Mrs. Ormond, Bournemouth) and W. E. Wilkins (Bournemouth) had the winning bowls of Roses respectively. Mr. Taylor (gardener to Walter Child Clark, Esq.) won in the class for six vases of Roses, staging grand blooms; he was followed by Messrs. C. Pearce and W. Webb. Mr. Heath had the best epergne of Sweet Peas. Mr. Weaver staged very fine Sweet Peas in the classes for nine and six vases respectively, Messrs. G. Cockman and C. Pearce following in these classes. The display of Sweet Peas on a given space of tabling was a good class, but only two members competed, namely, Messrs. Shave and Weaver, who won in the order named. Mr. C. Humphries staged the best single bloom in the Rose classes, winning with a fine specimen of Hugh Dickson. Walter Child Clark, Esq., had a table of twenty-two vases of Roses, chiefly Lady Waterlow, grown under Pine trees. The blooms were magnificent, and a first-class certificate was awarded, a similar award going to R. Chamberlain, Esq., the chairman of the council, for a table of Roses, Carnations and Sweet Peas. Mr. Weaver had the best three vases of hardy herbaceous flowers.

NON-COMPETITIVE EXHIBITS.

Messrs. Watts and Sons, Limited, were awarded a gold medal for a fine display of Roses and Carnations, beautifully staged; Messrs. Webb and Sons, a gold medal for a grand lot of Sweet Peas, about eighty varieties, charmingly staged; Messrs. Carter, Raynes Park, a gold medal for about fifty vases of Sweet Peas of high merit.

Mr. J. Stevenson was given a silver medal for fifty vases of Sweet Peas, arranged in his well-known style, light and graceful; Messrs. Dobbie, a silver medal for fifty vases, beautiful in colour of flower, but cut rather short in the stem; Messrs. Cooling and Sons, a silver medal for lovely vases of climbing and Hybrid Tea Roses; Mr. T. K. Ingram, a silver medal for standard Roses and Liliums; a similar award to Mr. M. Prichard for a grand collection of hardy herbaceous flowers.

Certificates were awarded as follow: Messrs. Keynes, Williams and Co., for Roses; Mr. H. M. Elford, for border Carnations on plants and boards; The Burton Hardy Plant Nursery; Mr. D. Lorrimer, for a display of Roses; Mr. Percy Sugden, Wimborne, for Roses.

NORFOLK AND NORWICH HORTICULTURAL SOCIETY'S SUMMER SHOW.

THIS was held at Norwich on June 25 and 26. Owing to the sudden death a few weeks ago of the hon. secretary, Mr. C. E. Pilling, the duties were kindly undertaken by Mr. J. E. T. Pollard, a former hon. secretary. There was a numerical falling off in the entries, though the standard of exhibits was well maintained; in fact, in Roses and fruit it was ahead of what we have seen at the Norwich Show for several years past. Though styled a Rose show, the exhibits are of general character. The premier prizes for the open Rose classes were all secured by Messrs. J. Burrell and Co., Cambridge. The show had evidently suited them at the critical moment, for their blooms had just that freshness and perfection of shape so much desired by exhibitors. Their varieties were right up to date as well. Messrs. F. Cant and Co. ran them second in every case. In the amateurs' section the executors of the late R. Steward, Saxlingham, beat all comers, even the Rev. J. A. L. Fellowes, a well-known local grower, going down second to them. In the classes generally, one could but notice the tendency toward the yellow-tinted Hybrid Teas. This fact was specially noticeable in the small classes. Rambler and garden Roses do not seem to display their charms and beauties when bunched up in stands, and as a consequence are generally passed by when the ordinary visitor goes his rounds.

Sweet Peas are now a recognised feature at any summer show, and a fine display was made at Norwich. In the competitive section Mr. F. Wilby, gardener to F. A. Bainbridge, Esq., Hethersett, won premier position and holds a ten-guinea challenge cup presented by Messrs. Daniels Brothers, Limited, Norwich.

There was an exceptionally good show of herbaceous flowers. For forty-eight bunches, distinct, Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead, was a well-deserved first. His collection was very comprehensive, and the bunches bold, yet not heavy. Mr. W. Hilson, gardener to Sir Frederic Adair, Flixton Hall, was first for thirty-six bunches, the colouring of many of his subjects being most vivid. A dozen bunches of choice varieties were staged by Mr. Frank Neave, Lingwood, with which he secured first place in that class.

Carnations for competition came strongly from that veteran exhibitor Mr. W. Allan, Gunton Hall Gardens, easily securing him premier position.

Exotic and greenhouse flowers were best by far from Mr. Hilson (Sir F. Adair's gardener). There were many smaller classes for cut flowers in addition to those referred to

Fruit was a prominent feature, and more especially does this remark apply to the classes for Strawberries. Mr. W. Hilson was first for a collection of fruit. His Grapes had a delightful finish. Mr. W. P. Wright, gardener to W. J. Birkbeck, Esq., Stratton, had a wonderful dish of Leader Strawberries, easily first in their class. Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall, had as good a collection of four varieties as one could wish to see. This exhibitor was also first for a scarlet-fleshed Melon with a new seedling of his own raising. There were also classes for Peaches, Nectarines, Cherries and Raspberries, and in each class good examples were staged.

In the vegetable section Mr. W. Chettleburgh, gardener to Colonel Rous, scored quite a phenomenal success, winning first for a collection and the same position in seven other classes with a strong competition. The Cauliflowers from Mr. Endersby and from Mr. W. Marjoram, gardener to W. T. F. Jarrold, Esq., Thorpe, were in each case fine examples of good culture.

The trade growers made a display unequalled in the annals of a Norwich summer show. Messrs. Daniels Brothers, Limited, Town Close Nurseries, Norwich, had an assorted group of plants and cut flowers from their own nursery. These were very nicely arranged and educational from a gardening standpoint, and reflected credit upon the firm for their high culture.

Messrs. A. J. and C. Allen, Norwich, exhibited Roses of all types and in all ways—pot plants, groups of cut flowers and individually. Needless to say, they comprised the latest and best.

Hobbies, Limited, Dereham, had a stand devoted entirely to Roses. The feature of it was the display of their own novelties Pink Pearl, Effective and Lemon Queen. There were others as well in profusion.

Mr. H. Morse, Westfield Nurseries, Eaton, and Mr. E. Morse, Eaton Dell, Norwich, both made interesting exhibits of Roses, embodying only the very newest and choice sorts.

Mr. Robert Holmes, Tuckswood Farm, Norwich, had Sweet Peas in profusion. Many of these, we noted, were under numbers, and for one, the colour of which we should say was orange red, he received a first-class certificate. The visitor was able, too, to see splendid examples of Edith Taylor, Lilian, Queen Mary and other of his novelties.

Mr. W. J. Unwin, Histon, made a display of Sweet Peas that opened one's eyes in wonder. Boldness of flower, length of stem and every other desire of the exhibitor were as they should be. We need not name any. His own leading sorts were well to the fore, as well as the best of those of other raisers.

Messrs. G. Stark and Son, Ryburgh, also had a display of Sweet Peas, and mention of two must be made, viz., Maggie Stark and Decorator. These are worth a place in every collection.

Mr. G. W. Miller, Wisbech, had Orchids in pots and a miscellaneous group of herbaceous flowers.

Messrs. Young and Co., Cheltenham, displayed such an array of Carnations as one rarely sees at a provincial show, the quality and colours being superb.

RICHMOND FLOWER SHOW.

ROSES were the leading feature at Richmond on the occasion of the annual flower show, held on June 25 in the spacious Old Deer Park.

Keen interest was displayed in the large class for forty-eight Roses, distinct, three blooms of each. Messrs. R. Harkness and Co. were first with a grand collection, of good quality throughout. Messrs. B. R. Cant and Sons and Messrs. D. Prior and Son were second and third respectively.

Messrs. W. and J. Brown were first for twelve Teas of one variety with that lovely Rose Mme. Jules Gravereaux, Messrs. Burch and Messrs. Prior both following with the same variety. The blooms of the first-prize stand were, however, somewhat overdressed.

Messrs. W. and J. Brown, Peterborough, were first for twenty-four Roses, distinct, three blooms of each. The best blooms were Mme. M. Soupert, J. B. Clark and Caroline Testout. This proved a well-contested class, the second and third prizes going to Messrs. G. and W. H. Burch, Peterborough, and Messrs. R. Harkness and Co., Hitchin.

For twelve blooms of one variety, Messrs. G. and W. H. Burch led the van with a grand box of Lyon Rose, followed by Messrs. R. Harkness and Co. with Mrs. John Laing, and Messrs. D. Prior and Son with Bessie Brown.

The Rev. L. E. Chalmers Hunt, Letchworth, was first for twenty-four blooms, distinct (amateurs only). His blooms of J. B. Clark, Avoca and Mildred Grant were perfect. The Rev. J. H. Pemberton, Havering-atte-Bower, was placed second with a heavier set of blooms of almost, if not quite, equal quality.

Messrs. G. Jackman and Son, Woking, also had a fine group of Roses, in which Mme. Ravary, Dean Hole and Le Progrès were shown in great form.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Alteration of Date of London Daffodil Show.—We are officially informed that the Royal Horticultural Society's 1914 Daffodil Show will be held on Wednesday and Thursday, April 15 and 16, and not on April 21 and 22 as previously officially notified.

Border Pink Nellie.—A good companion to Pink Mrs. Sinkins will be found in the variety Nellie, the deep fringe of the petals being white and in some flowers slightly suffused with violet, the central portion being distinctly blotched with a rich purple or purple maroon colour. The habit of the plant is dwarf and compact. It is very free-flowering and delightfully fragrant.

Propagating Campanulas.—The present is a good time to propagate by cuttings most of the alpine Campanulas. Some of them bloom so profusely that there is a difficulty in getting cuttings from them. When selecting cuttings, preference should be given to those exposed to full light. Use pots of sandy soil and place in a close, shaded frame till rooted. The following are all desirable varieties: Carpatica Little Gem, c. Riverslea, muralis, turbinata, with its varieties Isabel, grandiflora and alba; and pusilla and its varieties pallida and Miss Willmott.

The Lyon Rose.—Is this beautiful though indescribable Rose improving with age? We are tempted to ask this question after seeing the many glorious examples of it last week at the great London show, and also in many gardens that we have visited. The flowers seem to be of a richer coppery shrimp pink colour than ever, while in form they also appear to have gained some points. If only it would hold up its head better in the garden and give us flowers as good as it has done this year, this Rose would claim a first place in our estimation as a garden variety.

Pruning Climbing Roses.—A few of the earliest flowering varieties are over, and those that are not likely to produce a second crop of bloom, such as Tea Rambler, Polyantha simplex and Carmine Pillar, may have the old flowering wood cut out, thus giving the young growth every chance of developing properly. This early pruning may not commend itself to those who like to see their arches and pillars well clothed all the summer, but the results obtained from such treatment are good enough to warrant it being done, and it is really astonishing how quickly the young growths develop.

Campanula pusilla Miss Willmott.—Possibly no individual plant attracted more attention at the recent Holland House Show than this charming Bellflower. In colour the flowers are of a beautiful silvery blue, and are borne in wild profusion. So popular has this Campanula become that no rock garden can be considered complete without it. A specialist in alpines was recently heard to remark that this distinct variety is the most saleable of all alpines, and yet it has never been granted even an award of merit by the Royal Horticultural Society.

A Useful Hardy Flower for Cutting.—In the modern craze for novelties the merits of many of our older garden flowers are in danger of being overlooked. This was brought vividly to mind a few days ago when we saw some old Cornish pitchers daintily filled with the Goat's Rue, Galega officinalis. Few hardy flowers could, with so little trouble, be induced to give such a charming effect, the clusters of sky blue, Pea-shaped flowers, with the dainty green pinnate foliage, lending themselves well to artistic arrangement. This plant is very easy to grow, and will give armfuls of beautiful flowers and foliage for a slight outlay of trouble.

A Beautiful Evening Primrose.—Among herbaceous plants which are flowering at the present time, few are more attractive than the charming little Evening Primrose known as Œnothera fruticosa Youngii. It makes an erect and neat plant from 2½ feet to 3 feet high, the columnar stems being for some weeks well furnished with brilliant golden yellow blossoms. The buds are enclosed in a sheath of orange scarlet hue, and this, combined with the bright yellow of the fully-opened flowers, adds to the charm of the plant. Unlike the common Evening Primrose, Œnothera biennis, the flowers of Youngii remain open all day. It is a perennial plant, and one worthy of inclusion in any garden.

Mendel's Law and Variation in Plant-Life.—Dr. H. F. Osborn, writing in the current issue of the *Orchid Review*, says: "The brilliant progress in heredity of the last nine years, beginning in 1903 with the rediscovery of Mendel's law, should not blind us to the four broad inductions from paleontology, that transformation is a matter of thousands or hundreds of thousands of years, that to the living observer all living things may be delusively stationary, that invisible tides of genetic change may be setting in one direction or another observable only over very long periods of time, that discontinuous mutations or saltations may be mere ripples on the surface of these tides."

The Great Rose Show.—The immense strides that have been made in the evolution of the Rose were well demonstrated at the great London show held under the auspices of the National Rose Society on Friday of last week. Perhaps it is in what are termed garden Roses that the greatest advance has been made, and it speaks volumes for the acumen of the Council in providing special classes for these a few years ago. The most charming features of this record show were these decorative Roses in baskets and in vases, though to the exhibitor the large single blooms in vases naturally appealed most strongly. A report of the show, together with a description of the new Roses that gained awards, will be found on another page

CORRESPONDENCE.

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

An Interesting Old Rose.—I am sending the enclosed Rose to ask if you can tell me its name. It is from a very old tree, and in general growth and appearance resembles the common Maiden's Blush, but when fully open the flowers are pure white. It is locally called the Ointment Rose, as its petals are used for that purpose by country housewives in this neighbourhood. It is scarcely ever attacked by any insect or blight, and is never either pruned or manured. It flowers profusely every summer (wet or fine), and appears to me to be vastly superior to the majority of modern rambling Roses.—ANNE AMATEUR, *Lindfield, Sussex.* [The Rose is one of the varieties of Rosa alba named Blanche Belgique. It is a very good old variety, but not much grown now.—ED.]

Rosa sinica Anemone.—The short note on page 340 of last week's issue by no means overpraises this beautiful but rather tender Rose. It is one of the earliest to open and thoroughly distinct in colour. I would like to call attention to the newer hybrid of this, named Mrs. A. Kingsmill. Unlike the type, this is a dwarf grower, has the additional merit of being perpetual blooming, and is particularly good during late autumn. Curiously enough, it also differs by having the lovely shadings of the type reversed, these being on the upper instead of the under surface of the petals. The raisers, Messrs. George Paul and Son, note that the exhausted flowers of this variety should be promptly removed as an aid to its better growth.—A. P.

Silver-Leaf Disease in Apple Trees.—Your correspondent Mr. E. Molyneux on page 322, issue June 28, gives readers some information about the silver-leaf disease of fruit trees which is startling. Both Plums, Peaches and Nectarines have been from time to time affected by this disease, but I have never heard of Apple trees suffering from it. If, however, Mr. Molyneux's remedy proves quite successful, he will have rendered a good service to fruit-growers. In my own case I have had Peaches and Nectarines affected, and all remedies applied failed, the trees being finally uprooted, as fresh branches were diseased every year. The trees were grown on an old nursery site, and I was told that silver-leaf was more prevalent when the trees were grown in such soil than when grown in newly-broken ground. I have never seen the whole of a tree diseased in one season, only odd branches, the others being quite sound and healthy.—B.

The Japanese Iris.—May I enter a protest against the note on "The Japanese Iris" on page 337 of last week's issue? Iris lævigata is a totally distinct species from I. Kæmpferi, from which all the so-called Japanese hybrids have arisen. Both species grow, apparently in proximity, in the Amur district of Manchuria, but they are easily differentiated by the fact that the leaves of I. Kæmpferi have a distinct midrib, while those of I. lævigata are smooth. The capsules and seeds are also very different. I. lævigata is still a very rare plant, although a quasi-albino form of it has long been known under the name of I. albo-purpurea. The typical plant has an unbranched stem and a head of three or four flowers, which open in succession. The colour is an intense blue-purple, and in its best forms this Iris is, to my mind, the best of all blue-flowered Irises. I have this year had a number of seedling plants in flower, which showed very little variation except in the exact shade of blue. Colour alone cannot, of course, be relied upon as a specific character; but, so far as I have been able to discover, wild I. Kæmpferi is always of a red-purple colour.—W. R. DYKES.

ROSE QUEEN MARY, AWARDED A GOLD MEDAL AT THE NATIONAL ROSE SOCIETY'S EXHIBITION. SHOWN BY MESSRS. ALEX. DICKSON AND SONS, LIMITED. (*See page V.*)

Worms in Lawns.—With further reference to the subject of worms in lawns, I should like to give you a few particulars of my experience as an ordinary amateur in this direction. I generally happened to have lived in districts where the soil is heavy, and I have come to the conclusion that it is a great mistake to destroy the worms and also to roll a lawn frequently, as excessive water does not drain away quickly enough and, consequently the lawn remains very soft, more especially if it should happen to be a slightly sunk one. I have experienced very little trouble with the casts since I have used sand (obtained from the road), which I sprinkle over the lawn very thinly at intervals from autumn to spring, according to the wetness of the weather. This prevents the casts sticking and they are more easily distributed, and even if they are trodden on, the grass easily pushes up again, as the sand prevents caking. I have discarded the use of all artificials, as I find I get better results in the long run by using a mixture of fine loam, rotted manure and leaf-soil spread over very thinly in the autumn and again in early spring. It is astonishing how quickly these dressings are absorbed when the worms are allowed free play, and when the lawn is quite clear I dust it over with slaked lime, in which I am, from experience, a strong believer, particularly in soils of this nature, although I am told it encourages Clover. However, I am not troubled with this, possibly on account of the dressings of sand. I have also found that the grass keeps in better condition during a period of drought under this treatment.—H. B. WHISTLER.

The Parrot's Bill in Scotland. Clianthus puniceus, the Parrot's Bill, is one of the shrubs which are but seldom found in the open in Scotland, but that it can be grown successfully in specially favoured gardens is evident by the good plant which is on one of the terrace walls of Culzean Castle, Ayrshire, the seat of the Marquis of Ailsa. Here it stands the winter well and flowers on a southern aspect. It covers a considerable space, and is highly decorative with its pretty foliage and its racemes of brilliant scarlet flowers. At Culzean it does not appear to call for any protection, but the position is a very sheltered one and its proximity to the sea tempers the winters greatly.—S. ARNOTT.

A Fine Magnolia.—Till within a recent period the only hardy Magnolia of an evergreen character in our gardens was Magnolia grandiflora, from the Southern United States of North America. A second evergreen species has, however, now come prominently forward in Magnolia Delavayi, which was given a first-class certificate at the Holland House Show on July 1. Although so many of the Magnolias now in our gardens are of Asiatic origin, they were all deciduous until the advent of M. Delavayi. This species was named in compliment to Père Delavay, who first discovered it in Central China. It was afterwards found by Dr. Henry and Mr. E. H. Wilson, the last named of whom introduced it to cultivation in Messrs. Veitch's nursery at Coombe Wood. It forms a bold-growing specimen, clothed with large, leathery leaves, supported by rather long stalks. These leaves are deep green above and whitish beneath. The flowers are large, egg-shaped and creamy white.—H. P.

Scentless Musk.—In reference to your note on this subject in THE GARDEN for June 21, I beg to say that it was noticed here several years ago that the common Musk (Mimulus moschatus) was devoid of scent. Since that fact was noticed I fear the old-time favourite has been looked upon as a negligible quantity here, a few odd clumps being allowed to grow at their own sweet will. On reading your note on the subject, however, three of us tried the powers of our olfactory nerve on the plants, but all to no purpose. I have just read the interesting and suggestive letter over the signature "Victoria Slade" in June 28 issue, and shall hope to see other testimonies on the subject.—CHARLES COMFORT, *Broomfield, Midlothian.*

Richardia Mrs. Roosevelt.—This Richardia, which formed the subject of a coloured plate in THE GARDEN for June 21, can at the present day hardly be regarded in the light of a novelty, although it is in every way a thoroughly good garden plant. Undoubtedly it would be more popular than it is were the spathes of a clear, decided yellow colour. It was shown by the late Mr. Amos Perry of Enfield (whose recent death we all deplore) at the Holland House Show of 1906, when an award of merit was bestowed upon it by the floral committee of the Royal Horticultural Society. At that time it was said to be the result of a cross between Richardia hastata and R. albomaculata. This is probably correct, though the hybrid form is more vigorous than either of its parents.—H. P.

Where to Grow Arenaria balearica.—Some may be misled by the remark on page 314, issue June 21, that this prettiest of very dwarf rock plants is best grown on northern exposures. It grows here like a weed on the face of brick walls facing due south, and on a newly-made rockery it is already taking possession of whinstone and sandstone alike. To show how climate affects this plant, I may add that though it comes up on south-aspected walls in a manner that proves it thoroughly enjoys these places, I do not recollect an instance of its establishing, or even trying to establish, itself in a shaded position or on a northern aspect. It may not be known that it forms an admirable carpeting plant for bulbs in vases, and I constantly make use of it for that purpose when Hyacinths and Tulips are transferred to these in spring. It is an exceedingly happy-go-lucky plant, and never resents removal, while the tiniest piece, like some of the wee Sedums, takes hold and establishes colonies in most unexpected positions.—R. P. BROTHERSTON, *Prestonkirk, N.B.*

FORTHCOMING EVENTS.

July 14.—United Horticultural Benefit and Provident Society Meeting.

July 15.—Royal Horticultural Society's Exhibition. National Rose Society's Show at Gloucester. Southampton Carnation and Summer Show.

July 16.—Flower Shows at Caterham, Uxbridge, Bishop's Waltham, Reigate, and Perry Barr, Birmingham. Nottinghamshire Horticultural and Botanical Show (two days).

July 17.—National Sweet Pea Society's Show at Vincent Square. Dunfermline Rose Show (two days). Dulwich Flower Show.

July 18.—National Carnation and Picotee Show at Vincent Square. North Lonsdale Rose Show. Birmingham Floral Fête (two days).

July 19.—Blackburn Flower Show.

THE ROSE GARDEN.

THE SUMMER PRUNING OF ROSES.

BY the end of July almost the whole of our ramblers and climbers from the Polyantha, Ayrshire, Boursault and hybrid wichuraiana sections will have finished flowering; and as the majority of these only bloom once, and then produce their best display from the ripened wood of the previous season, more particularly upon those long maiden shoots so characteristic of this class of Rose, some little attention is necessary towards securing a quantity of such wood in the best possible condition; and it is by a judicious use of the pruning-knife after their flowering is over that this desire can be best obtained. Cut away as much of the older wood as possible, encouraging long growths from as near the base of the plants as you can. Do not fear to thoroughly thin out the centres of bushes and weeping standards, and be firm in the removal of any growths with the slightest tendency to deterioration. This last is of more importance than many apparently imagine, as it has undoubtedly a tendency to develop that peculiar canker and constriction of bark so often found upon many of our strongest growers. A less quantity of young wood, and that properly developed, will always prove more serviceable than a mass of inferior growth, and perhaps never more so than when cultivating this class of Rose.

Some little discretion should be exercised when dealing with our climbers and ramblers that afford later blooms or a short run of a few occasional flowers after their first glut. I would leave some of the best laterals upon these and prune them away during the general pruning of next spring; otherwise one sacrifices a number of useful flowers from varieties of the William Allen Richardson, Rêve d'Or, Climbing Perle des Jardins, L'Ideal and Mme. Pierre Cochet class. There are also a few of the hybrid wichuraianas that provide quite a useful lot of autumn flowers upon the best of their late summer laterals. Alberic Barbier, Alice Garnier, Elsie and the newer variety Sylvia are examples, while the beautiful small single white wichuraiana alba, the type or species from which this section of ramblers originated, may be left entirely free of the knife, merely thinning out the spray growths that have flowered when doing the usual spring trimming, as almost all of such laterals will continue to carry trusses of flowers and highly-coloured berries until long after the frosts have stopped the majority of Rose blooms.

Some of our vigorous Hybrid Perpetuals, too, may feel the knife to advantage after their chief flowering is over. I am alluding to such as Mme. Gabriel Luizet and Margaret Dickson, which seldom bear more than one good crop during the summer, and this upon the best-matured rods of the previous year. A. P.

STANDARD ROSES AND INSECT PESTS.

[*In Reply to a Correspondent.*]

WE think there is a great deal in the observation you make regarding the comparative immunity of blight upon standard Roses as compared with bushes, and it would be interesting to hear the experience of other readers on the subject. One reason for this immunity is that the elevation from the ground-line prevents the insects hibernating in the soil to a great extent, and another that birds during their nesting season can more readily clear the trees. If one could ascertain the number of aphides a single pair of sparrows will devour in a day, we should not be so ready to condemn this little despised bird. Our correspondent asks for the names of Roses that make good standards. We cannot publish a long list, but name the following as being specially suitable for this form of growth: Caroline Testout, Frau Karl Druschki, Gustav Grünerwald, Hugh Dickson, J. B. Clark, Joseph Hill, Killarney, Lady Ashtown, Lyon Rose, La Tosca, Mme. Leon Pain, White Maman Cochet, Edward Mawley, James Coey, Countess of Shaftesbury, Souvenir de Gustave Prat, Sunburst, Mrs. Herbert Stevens, British Queen, Grüss an Teplitz, Lady Roberts, Mme. Antoine Mari, Mme. Abel Chatenay, Mme. Jean Dupuy, Mme. Ravary, Prince de Bulgarie, William Allen Richardson, Alister Stella Gray, Sarah Bernhardt, General Macarthur, Gloire de Dijon, Gustave Regis, Mrs. George Shawyer, La France, La France de '89, Laurent Carle, Mme. Hoste, Mme. Isaac Pereire, Mme. Melanie Soupert, Mme. Wagram, Margaret Dickson, Mrs. John Laing, Mrs. Stewart Clark, Paula, Peace, Prince C. de Rohan, Richmond, Souvenir de S. A. Prince, Ulrich Brunner, Viscountess Folkestone, Mrs. A. Munt, Mrs. H. Brocklebank, Château de Clos Vougeot, Arthur R. Goodwin, Juliet, Betty, Countess of Derby, Florence H. Veitch, George Dickson, Lady Pirrie, Lady Greenall, Melody, Lieutenant Chaure, Marquise de Ganay, Mme. Segond Weber, Countess of Ilchester, Pharisäer, Walter Speed, Harry Kirk and Molly Sharman Crawford.

IN THE HERB GARDEN.

COMPARED with people who grow Roses or Orchids or rock plants or Carnations, how few there are who pay any attention to herbs! Yet no plants are more interesting and nothing can be more delightful than a garden of herbs when properly designed and taken care of. Unless a fairly favourable spot is given up to them, the full pleasure of such a garden cannot be tasted. Wherever circumstances make it possible, some enclosure separated by hedge or bank or fence from the garden proper should be set apart. In it will be found a sense of rest and healing elsewhere unknown besides a sweetness that is strangely refreshing. Unlike the garden flowers, herbs are what Sir Francis Bacon calls "fast of their smells." If you want to savour them, you must ask for them. Just a touch suffices or the merest brushing of the hem of one's garment as one passes—then the Thymes, the Mints and all the other herbs will show what they are made of.

My own herb garden, though I would not be vain about it and I confess that it is much too small to please me, is a source of interest not only to myself, but to all kinds of people. And why? Because it appeals to so many different sorts of tastes and fancies.

First, the cooks. I put them first because in a herb garden it is well to be practical. Why do cooks like it? That is soon told. Because they find in it so much that improves their soups and salads. In the spring and early summer when the herbs are fresh they are at their very best, and it is such a pity that present-day cooks are accustomed to find little else in the kitchen garden

besides Parsley, Mint and Sage. All gardens have these, we must suppose; but why stop there? Why not grow Sweet Marjoram, Curled Chervil, Tarragon, Savory, and both the common and the Lemon Thymes? All these have pleasant and useful flavours. Winter Savory is a perennial, and the young spring shoots are beautifully tender. Later on in the season, however, Summer Savory (an annual) is better, as it is less woody. Marjoram for its sweetness and the Savories for their warm spicy taste are very popular in the kitchen. For different reasons so are Chervil and Lemon Thyme. Tarragon and Basil are more for occasional than for everyday use.

Church people — indeed, all Bible-lovers—seem never tired of seeing such herbs as Myrrh and Hyssop, known so well to them by name. Myrrhis odorata, also called Sweet Cicely, has umbels of charming white flowers, which bloom profusely in the month of May. Hyssop (blue-flowered, a bushy, handsome plant) is still used in the Roman form of consecration. Coriander seeds, perfectly round, with a hot, sweet taste, were compared in appearance to the manna rained down from Heaven to feed the Israelites. They are now used to flavour curries and in making sugar plums.

Antiquarians and people who delight in legendary lore cannot be got out of the herb garden once they are in it! What with old associations and magic, there is no end to their stories. St. John's Wort is one of the amazing plants. If you pull a sprig of it on Midsummer (St. John's) Eve, a fairy horse will spring up from the ground and fly round the world with you before you know where you are. Vervain, which grew at the foot of the Cross, was never gathered by the faithful without a certain prayer being breathed over it. The plant was full of virtue.

Doctors, of course, are interested in seeing the herbs alive and growing, which, as a rule, they only think of when they write prescriptions — Peppermint, for instance, and Dill for fractious babies; Wormwood for bitters; Mallow, Mullein and Elecampane for coughs; Marigold for sprains; Valerian for nerves; and Chamomile as a stomachic. "A trifle of the herb called dandelion," it may be remembered, gave a smartness to Betsy Prig's famous salad. This herb is still in the British Pharmacopœia.

The day for home-made scents is over, so there is no demand now for Lavender, Rosemary, Bee Balm, Bergamot, or Sweet Woodruff to brew "sweete waters." Most of us like to have these in our flower gardens, all the same, to enjoy their fragrance, but it is to the herb garden they properly belong.

Much more might be said about the pleasantness and usefulness of the herb garden, but this is enough at one time. FRANCES A. BARDSWELL.

THE FLOWER GARDEN.

THE BLUE-FLOWERED POPPY.

(MECONOPSIS WALLICHII.)

THIS is undoubtedly one of the finest of the Poppyworts in cultivation. It is an extremely handsome herbaceous biennial, and is remarkable as being one of the few, if not the only, truly blue-flowered Poppy in cultivation at the present time. It attains a height of from 4 feet to 7 feet, and forms a perfect pyramid. It is exceedingly beautiful when in full flower. The blossoms are about three inches in diameter, broadly saucer-shaped, pendent and of a lovely shade of blue. The blooms always commence to open first at the summit of the stem, then gradually from day to day expand until the lowest and last bud is reached.

THE BLUE-FLOWERED POPPY, MECONOPSIS WALLICHII, A BEAUTIFUL PLANT FOR A SHADY CORNER.

Although, as a rule, not more than about twenty flowers are fully open at one time, there is something particularly attractive about M. Wallichii in full bloom that fascinates plant-lovers. Its curious, deeply-cut leaves, the conspicuous, long, red, bristle-like hairs and the general habit all tend to mark it out among its fellows for special attention. It was first discovered in Sikkim by Sir J. D. Hooker, and seeds forwarded to Kew bloomed there in the summer of 1852. It forms a rosette of large leaves from 1 foot to 18 inches in length, deeply cut and very brittle, and is a plant that requires a specially-prepared site to grow well. In a peat bed, under the shade of a large Bamboo, as near an imitation of its natural habitat is obtained as is possible in this country. It requires shade, and seems to do best where it can have no chance of seeing the sun at all.

It is unfortunate that, after all its beauty and interest, the plant should die entirely away when the flowering is over, and seed should therefore be sown every year. To obtain the fullest development in these plants, seeds should be sown early in the year, say in February or March, the latter date being quite early enough where warmth can be had for the seed-pan. An important point is that of growing on the seedlings briskly from the first, as a check at any of the early stages prior to planting out is calculated to do serious mischief. From the seed-pan the young plants should be potted into equal parts of loam and sandy peat in pots 4 inches across, transferring them to their permanent positions as soon as the roots reach the side of the pot. To delay planting out is to court failure, as the pyramid of blossom in the year ensuing will be in proportion to the development of the plant in the first year. A dozen to twenty plants should be placed in an irregular group at about eighteen inches apart. These, when in full flower, will provide a glorious sight. There is a good deal of difference in the colour of the flowers, and a good strain should be selected. The varieties fusco-purpurea and purpurea are not so desirable as the type, as the blossoms are dull in colour.

WYNDHAM FITZHERBERT.

SEASONABLE NOTES ON CARNATIONS.

Propagation. — There are no plants easier to increase than these, and the result can be achieved by cuttings, seeds, or layers. Of the three the last named is by far the most generally satisfactory, because with reasonable care failure is an impossibility and one knows that the variety will be perpetuated. The same desirable result is, of course, secured when cuttings are rooted; but, unless a man is exceptionally fortunate or skilful, it is certain that the proportion of losses will be considerable. The raising of seedlings is full of interest, and should be done in all gardens each season, since plants of remarkable vigour and floriferousness are thus procured, and now and again one of superb quality is found that is in all respects worthy of perpetuation by layering. The disadvantage of seedlings is that one never knows what one will get, and amateurs, as a rule, do not care to live in such a world of uncertainty. Seeds can be sown out of doors now on a border of light

soil, and the resultant plants will, with proper care, bloom next year.

Layering.—However, the subject of the moment is how best to proceed in layering. Fortunately, the details are simple, and well within the reach of every amateur in the country. The first step is to erect a mound of soil round the plant to be increased. The compost should comprise leaf-soil or refuse manure and sand in addition to the ordinary soil of the garden, and it ought to be built up to such a height that the fixing of the layers will be facilitated. The next point with which to deal is that of suitable shoots. This presents no difficulties, since any growth that shows neither signs of disease nor flower answers admirably. From the lower portion a few leaves must be stripped, and the essential cut should be made with a very sharp knife. Lift the growth carefully, insert the knife underneath, and draw it upwards and outwards through at least one joint—usually a length of 1 inch will suffice. This done, the cut should be so pegged down to the mound prepared that the tongue is kept wide open. To ensure this, many people insert a small stone; but this is not really necessary, as the soil will answer the same purpose if the work is done correctly. The one thing further that is needed to encourage rooting is pleasant and equable moistness, and in normal seasons this is easily secured by the judicious application of water. To attach the layers to the mound, pegs of any convenient kind can be utilised. Those of Bracken Fern are excellent, if procurable, and specially-made pins are purchasable from seed merchants and nurserymen at reasonable prices. It may be well to caution the tyro against making the cut so low down on the shoot as to reach the woody portion, as this usually ends in failure.

Tying and Staking.—With the plants practically at their best, it is of the utmost importance that no detail that will go to the full reward of past labours shall be overlooked. If the flower-stems are allowed to lie about in all directions, the blooms will not come to perfection, and those that do develop to a fair state of beauty will not show off their charms. Therefore careful staking and tying are imperative. Avoid the use of heavy sticks and thick strands of tying material, as they are unsightly; but attach each stem in a ligature that will support it adequately without creating the smallest suspicion of stiffness. As with pins for layering, so with supports. Special ones are procurable from the leading dealers, which admirably answer the purpose for which they are intended.

Watering and Hoeing.—The glorious uncertainty of the climate of our beautiful country makes it impossible for one to say whether it will be necessary to water the plants or not; the decision must rest with the cultivator. If the soil is dry, give water to maintain it in a state of moistness; if it is wet, leave the water-pot alone. The value of hoeing is undisputed. Whenever the surface is so dry that the blade of the tool will pass freely through it, use the hoe; or if it is feared that injury will be done with that tool, open up the top with a small fork or a bluntly-pointed stick. J. H.

SOME GOOD SUMMER FLOWERS.

A CHARMING gathering of flowers lately received from Messrs. Bunyard of the Royal Nurseries, Maidstone, is a pleasant reminder, to one who is now only rarely able to visit nurseries and private gardens, of the advance that is being made in the varieties of some of our best summer flowers. Of these, Irises and Delphiniums, Heucheras, Poppies and Pinks all show variations in some desirable direction. Among those received the following are noteworthy flowers of rare beauty: Iris Mrs. Reuthe is a large and lovely flower of a pale delicate tint, apparently within the pallidas; Delphinium Mrs. Creighton, a very striking bloom, blending blue and rosy purple in a strong metallic sheen; Persimmon, a flower of loveliest pale blue; Queen Wilhelmina, palest blue, flushed with light rosy lilac; Miranda, palest mauve lavender; Cymbeline, brilliant middle blue; Lorenzo, a massive spike of darkest blue. These flowers, all of the solid type, with well-filled spike, bring to mind other good Delphiniums, of which, for ordinary garden use, nothing is more desirable than those so easily grown from seed labelled Belladonna. The resulting plants are not exactly the old and excellent Belladonna, with its wonderfully pure, rather light blue colouring. They have lost the dwarf stature and general air of distinction, but have gained in constitution and are of a habit intermediate between true Belladonna and the taller kinds. They have the Belladonna character of a loose, open spike, and are no doubt near relations of that good old sort—precious plants to have so easily, for I believe the true old kind rarely, if ever, forms seed.

Of the Pyrethrums from Messrs. Bunyard, two, especially, are of great beauty—Queen Mary (flesh pink) and Ivonne Cayeaux (a fine white).

No flowers have gained more of late years than the Oriental Poppies. It must have been twelve years ago when I first saw a collection of blooms—I think from Messrs. Godfrey of Exmouth, of orange and pink colourings, some of them already inclining to a salmon tint. More recently we have had the admirable Mrs. Perry, of apricot colouring, followed by the still more beautiful Jeannie Mawson. When one sees a well-bloomed patch of this wonderful flower, one thinks that beautiful development of the Oriental Poppy can go no further. Now Messrs. Bunyard send a charming little flower named Princess Ena, much like a miniature Jeannie Mawson, also a splendid scarlet, Hesperia, and a very dark claret-coloured bloom called Mahoney. For amateurs who have space to spare, nothing is easier or more interesting than the raising of these Poppies from seed. Quite twenty years ago I sowed the seed of a single pod of Papaver orientale bracteatum. It was at a time when there was some discussion in the horticultural Press as to the identity of bracteatum with the ordinary orientale. I had a large crop of seedlings, many of them producing flowers of great size and beauty. They varied in colour from a very deep scarlet, like that of the usual bracteatum, to a bright, light scarlet of the colour of red-lead paint. But among the whole lot there was not a single plant that could be classed as bracteatum, with the dark, distinct foliage and stiff, upright flower-stem. It was proof enough that the name bracteatum has no botanical value. G. JEKYLL.

A BEAUTIFUL GROUPING OF IRIS KÆMPFERI MORNING MIST ARRANGED BY MESSRS. R. WALLACE AND CO. AT THE HOLLAND HOUSE SHOW LAST WEEK. (*See page* 352.)

WATERING SWEET PEAS.

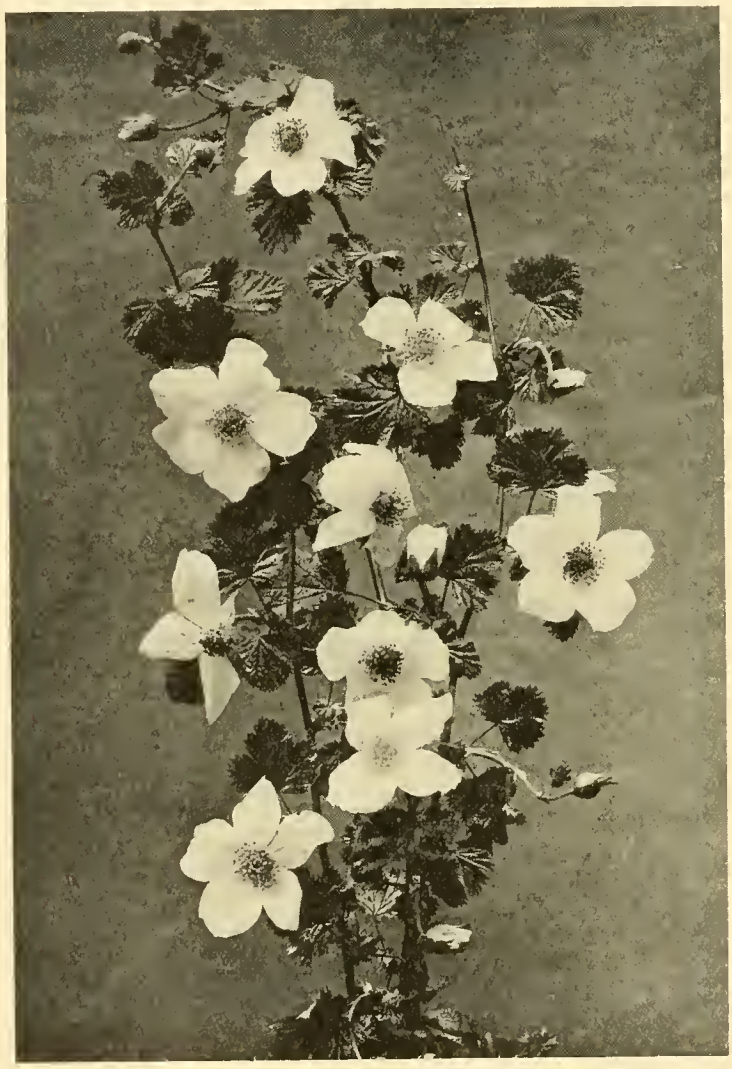
THERE is a great difference of opinion as to the value of watering Sweet Peas during dry weather, but we think all good growers are agreed that a light overhead syringing or hosing with clear water during the evenings of hot days is beneficial to the plants. This not only washes away dust and other injurious accumulations, but puts a decided check to the ravages of insects.

TREES AND SHRUBS.

THE FLOWERING BRAMBLES.

THE genus Rubus is very rich in the number of species, but, comparatively speaking, few of them may be described as good garden plants. A list of the best twelve would about exhaust the number of those worthy of general cultivation. These for garden purposes may be readily divided into three groups, *e.g.*, those worth growing for the flowers; a few with ornamental foliage, including two or three evergreens; and several with attractive stems, which are seen at their best in winter when devoid of leaves. The best of the flowering Brambles or Raspberries are three North American species—Rubus deliciosus (illustrated), R. odoratus and R. nutkanus. To these may be added two double forms of our hedgerow Brambles.

Rubus deliciosus.—This is a hardy shrub 4 feet to 6 feet, occasionally more, in height. It is a native of the Rocky Mountains, and was introduced by the late Mr. Anderson Henry of Edinburgh in 1870, though it was known and named from dried specimens fifty years earlier. The leaves and growth of the bushes suggest a Currant bush rather than a Bramble, and it has neither spines nor thorns. The flowering season is May, extending into June. The blooms are white, resembling a single Rose, 2 inches or more in diameter. There are, unfortunately, two forms in commerce, one having much smaller and inferior flowers than the one illustrated. A rich sandy loam suits the plant best, but it will thrive in most good garden soils. Though a perfectly hardy shrub, R. deliciosus should be given a warm, sunny spot in the garden to obtain the full beauty of the bushes; in fact, in cold districts it is worth a place on a sunny south wall. The usual method of propagation is by layering, as cuttings do not root readily. During a favourable summer the plants sometimes produce fruits, when seeds are available as a second means of propagation. The name "deliciosus" was given to the plant presumably to describe the flavour of the fruit, but the traveller when he discovered the fruits of R. deliciosus must have been very weary and thirsty to describe them as delicious. The fruits of our hedgerow Blackberries are far preferable.



FLOWERING SPRAYS OF THE THORNLESS BRAMBLE, RUBUS DELICIOSUS, AN INTERESTING SHRUB FOR A WARM SITUATION.

R. odoratus.—This is a very old introduction from North America, and is figured in one of the earlier volumes of the *Botanical Magazine*, t. 323. It is vigorous and free in growth, sending up strong canes annually to a height of 6 feet to 7 feet, like the garden Raspberry. The suckers spread rapidly in the surrounding ground in most soils, soon forming large clumps or groups. The flowering stems should be cut down to the ground in autumn, leaving only the young, vigorous shoots. The largest of the handsome leaves measure 10 inches to 1 foot across. The rosy purple flowers exceed two inches in diameter, and are borne in succession from early June to September. The Purple-flowering Raspberry, to use the common name, is a valuable plant for shrubbery borders in large and small gardens. The suckers, which, as before mentioned, push up freely, form a ready means of increase, and the plants will thrive in most soils in sun and shade.

R. nutkanus.—This species, from the fact that it was first discovered growing in the Nootka Sound district, is sometimes referred to as the Nootka Raspberry, also as the Salmon-berry. In foliage and growth it closely resembles R. odoratus, but the flowers are white.

Double-Flowered Brambles.—While all agree in calling them double-flowering Brambles, we possess in gardens a double pink and a double white Rubus, to which botanists and nurserymen give several names. In the "Kew Hand List" the pink-flowered form is named R. ulmifolius flore pleno. One nursery catalogue gives it as R. fruticosus roseo pleno, and a second R. bellidiflorus. The Kew name for the double white Bramble is R. thyrsoideus flore pleno, the nursery name R. fruticosus flore albo pleno. The most important recommendation possessed by both these plants is that they do not flower till late summer and autumn, when most of our hardy shrubs are over.

Being of loose, rambling habit, to all intents and purposes like our hedgerow Brambles except when in flower, they should be planted in the pleasure grounds, shrubbery borders and woodland; not in the carefully-trimmed beds of the formal garden and terrace. Here, when the long, arching growths are freely clothed with blossoms, they are most effective. With age it becomes necessary to cut out as many of the old dead growths as possible, or in time the groups look somewhat dishevelled. There are few soils in which these Brambles will not grow. Layering is the usual method of propagation, while cuttings will also root, though the percentage of successes is sometimes not very encouraging.

GREENHOUSE.

SUMMER TREATMENT OF THE AMARYLLIS.

JUDGING from what one sees in even good gardens, a considerable amount of ignorance prevails in connection with the summer culture of this showy and useful stove bulb. Plenty of growers get along all right with freshly-bought bulbs, but, after flowering them well the first season, have no more success. In too many cases the reason is not at all difficult to discover. As soon as the flowers fade, the pots are placed under the stage, where they either get too much or too little water and no light to speak of. This is entirely wrong, and the finest bulbs in existence would fail to thrive under such conditions.

The proper way to treat the stove Amaryllis (Hippeastrum) after flowering is to place the pots in a warm house, say, where a fairly steady temperature of about 70° can be maintained. Should any repotting be necessary, attend to this before placing the plants in heat. Personally, I see no necessity for repotting oftener than every three to five years, as the Amaryllis will always give the best results when cramped in small pots. At no time need the pots be larger than the 7-inch size, and very fine flowers are grown in 5-inch pots. Instead of repotting, it is therefore best, usually, to merely top-dress with rich soil to which has been added a fair quantity of Thomson's Plant Manure.

By the beginning of June with the early batch, and by the first week in July with the latest plants, growth should be complete. It is then that the most important part of the summer treatment must be given. Some writers advise placing the pots in cold frames, but for various reasons I

prefer a sunny greenhouse in which to properly ripen off the bulbs. An open lath stage is the best place for them, and they must receive full sunshine. Water must be given whenever necessary, and twice a week liquid manure, or, better still, Ichthemic Guano in water, must be given until the foliage begins to show signs of turning yellow. When this occurs, drop the feeding, but do not entirely stop watering. Indeed, the soil should at no time be allowed to get dust dry, although very little water will be necessary after the foliage dies down—just enough to keep the roots from dying. This is most important, for, naturally, a bulb which retains fresh, healthy roots has a great advantage over one that has been entirely dried off, when the roots have to start into growth again. As soon as the foliage dies down, the pots may be set under the stage, a moderately warm greenhouse being better than a stove for storing the bulbs during winter. To sum up, the Amaryllis should, during summer, be set on a dry, sunny stage, be well attended to with water, and fed frequently with weak liquid stimulants until nearing maturity, when water only should be given, and this latterly in great moderation. C. BLAIR.

Preston Gardens, Linlithgow.

LIBONIA FLORIBUNDA.

THIS lovely warm-house plant is not grown as extensively as it ought to be by amateur cultivators. It is a really beautiful plant for a warm greenhouse, and flowers during the autumn and early winter months when flowers are scarce. Its red and yellow blossoms, gracefully depending from the branches, harmonise agreeably with the prevailing colours and autumn tints. Old plants are often badly infested with red spider, but these minute insects can be kept away if the plants are regularly syringed. There is, however, a better way of growing fine plants, namely, by treating them as annuals from cuttings. The young plants make busby subjects, and the flowers borne on them are large and highly coloured. During the summer months the young plants may be grown in a cool frame, so that there will be no need to sacrifice space in the greenhouse to them at that period. Take off strong shoots about three inches long, insert them in a mixture of loam, leaf-soil and sand in small pots, and place the latter in a propagating-frame, or in a box covered with glass, placed on the hot-water pipes. When sufficiently rooted, pot the cuttings separately in 3-inch pots, using a similar compost with the addition of a small quantity of old mortar rubbish and well-rotted manure.

Retain the plants for a few weeks in a warm house or pit where a moist atmosphere can be maintained. Repot the plants as they require more rooting space, using the compost in a slightly rougher state, and confine them to a frame from the early part of June to the early part of September; then transfer them to a warm greenhouse. Feed the plants with weak soot-water and liquid manure when they are well rooted. It would be possible to buy a few young plants now to grow on for flowering next autumn and winter. AVON.

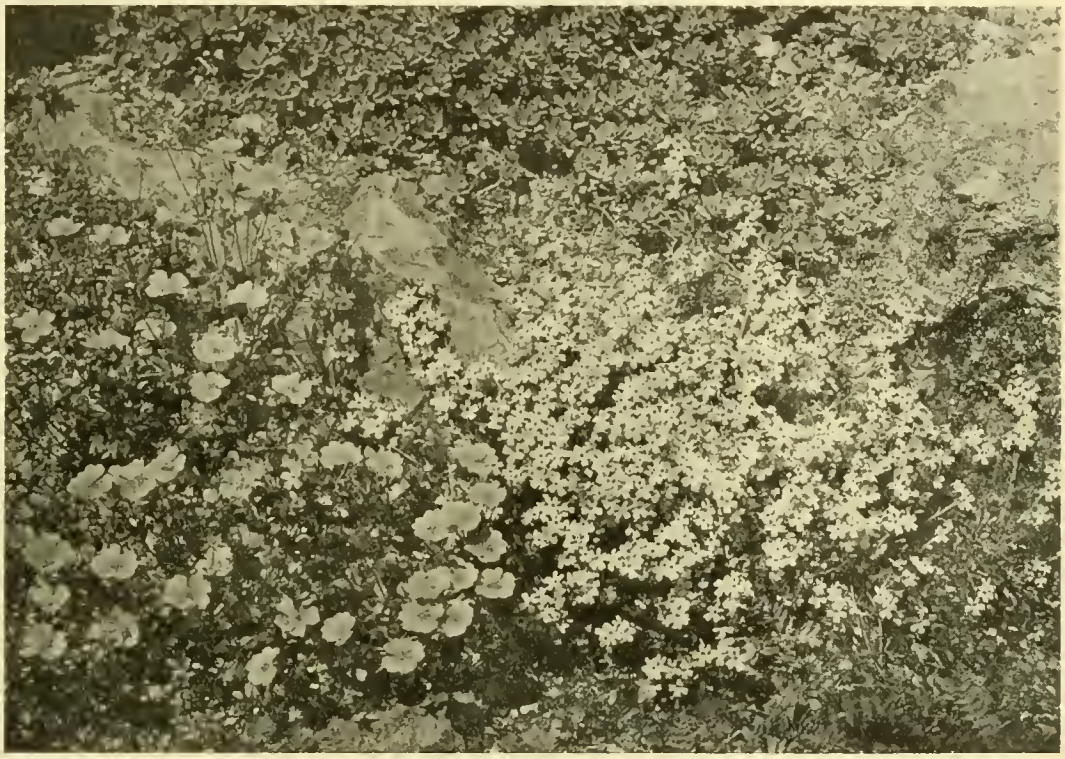
ROCK AND WATER GARDEN.

THE ALPINE POPPY.

WERE it not that one knows too well the troubles that await the cultivator of Papaver alpinum when grown in the ordinary way, one would wonder at its absence from so many good gardens. It is a lovely little gem—a vastly-refined Iceland Poppy—with foliage of the most delicate character, both in form and colouring, and a picture to look upon, either in or out of flower. A charming plant, with leaves as if carved out of frosted silver or made of silvery lacework, it bears dainty little flowers of varied colours litted gracefully on stems some six inches high, and gives a succession of blossoms for a long time. They are of many lovely shades, from white through roses to almost scarlets and yellows. A nice variety is given by the laciniatum strain, which has daintily-laciniated petals. The barrier to the cultivation of Papaver alpinum lies in the fact that it appears to suffer badly from wet in winter, while one would whisper also that the slugs are not innocent of the destruction of many of these exquisite little alpine Poppies. They can be transplanted in showery weather, especially when small; but the best course is to buy a packet of seeds, and either to sow very thinly in sandy soil where they are to bloom, or to sow them as thinly in pots of sandy soil, just covering the seeds and pricking out the seedlings where they are to flower, or into 2½-inch pots, whence they can be planted out with the ball intact. Given a very dry position in extremely light, sandy and gritty soil, they may stand wonderfully well; but there can be no manner of doubt that the moraine is the place *par excellence* for the alpine Poppy. Planted among the chips of this moraine, the plants will stand for years, and will give a long period of lovely blooms, seeding themselves in favoured places and forming dainty groups of charming foliage and even more charming flowers S. ARNOTT.

A CHARMING ASSOCIATION OF ALPINE FLOWERS.

THE accompanying illustration shows two beautiful alpines in happy association. The small-flowered plant on the left is Erinus alpinus, native of the mountains of Western Europe, but naturalised here and there in Britain. It is cherished in the rock garden by virtue of the fact that it is one of the most useful crevice plants in cultivation. Moreover, it is an admirable wall plant, and may easily be established on a wall by sowing seeds in crevices that have been filled in with stony or gritty peat and loam. The flowers, which are profusely borne in clusters almost clinging to the the face of rocks, are variable in colour, but are generally lilac or rosy purple, while the variety alba is a white counterpart, and flowers with almost, if not quite, equal freedom. The large-flowered subject of the illustration, bearing a strong resemblance to a Buttercup, is Potentilla grandiflora. This is a time-honoured favourite of our gardens, having been introduced from Southern Europe as far back as 1640. Its bright golden yellow flowers are abundantly produced above the Strawberry-like foliage. The flowers of both subjects are produced in early summer, but, like many of the pleasing combinations among alpine flowers, the happy effect here produced was the result of accidental planting. It is, however, an effect worth noting, and those who garden for early summer effect should certainly plant these subjects in close proximity to one another.



POTENTILLA GRANDIFLORA AND ERINUS ALPINUS FLOWERING SIDE BY SIDE IN THE ROCK GARDEN.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATES.

Adiantum trapeziforme Queen Mary.—A very handsome and erect-growing variety of this well-known species. The fronds were about two feet in length, the pinnæ of unusual size. From Messrs. H. B. May and Sons, Edmonton.

Magnolia Delavayi.—By reason of its vigour as a young plant, this remarkable species presents all the promise of tree-like proportions when fully grown. The flowers are of creamy hue, deepening into pale lemon colour. The handsome leaves are 9 inches or so in length and 4 inches wide, ovate-acuminate in outline, and with slightly undulated margins. From Messrs. Veitch and Sons, Limited, Chelsea.

AWARDS OF MERIT.

Adiantum siebertianum. — A pretty and distinct new species, the fronds having the outline somewhat of A. assimile, though stiffer and more erect-growing, and of a crispate character throughout. In youth the fronds assume a pretty red tint that is most pleasing.

Polypodium Mayi cristatum.—This is practically self-descriptive of one of the best types of greenhouse Ferns. P. Mayi is a strong-growing form of P. aureum, the cristate character noted in the present variety adding beauty to a pleasing form. Both these were shown by Messrs. H. B. May and Sons, Edmonton.

Nepenthes atropurpurea.—The pitchers are of crimson brown hue, the collar beautifully frilled. A very handsome variety of considerable decorative value.

Nepenthes Lewis Bradbury.—In this the pitchers are green and brown, somewhat mottled or freckled. Like the foregoing, it is a handsome kind and of considerable vigour. These were exhibited by Messrs. J. Veitch and Sons, Limited, Chelsea.

Iris Kæmpferi Morning Mist.—The variety is certainly a very beautiful and effective one, the flowers large in size, the white ground covered almost by a shading of blue, which renders it most attractive. A little colony of this variety is illustrated on page 349. From Messrs. R. Wallace and Co., Colchester.

Carnation Virginia.—A good yellow-ground fancy, streaked and flushed cerise.

Carnation The Baron.—Also a yellow-ground fancy, marked with rose. Both are excellent in their way. Exhibited by Mr. J. Douglas, Great Bookham, Surrey.

Erigeron hybrida Pink Pearl.—The colour is pinkish buff, with perhaps a slight shading to deeper pink as the flower ages. The plant is about fifteen inches high, of good habit, and flowers quite freely. Among the Erigerons the colour is quite unique and good. Shown by Mr. Amos Perry Enfield, Middlesex.

Rose Muriel Dickson.—A Hybrid Tea of deep glowing vermilion scarlet colour. The flowers are of good size, conical form and fragrant.

Rose Mrs. Godfrey Brown.—This also is a Hybrid Tea, the flowers being very large and pale flesh pink in colour. Of conical shape, very full and slightly fragrant.

A BEAUTIFUL NEW HYBRID ORCHID, MILTONIA SANDERÆ, SHOWN AT THE HOLLAND HOUSE EXHIBITION LAST WEEK.

Rose Ulster Standard.—A very deep crimson single-flowered variety. Judging by the sprays shown, it has a very vigorous habit, and the flowers are very fragrant. The three foregoing Roses were shown by Mr. Hugh Dickson, Belfast.

Rose Ophelia.—A lovely variety with pink centre and outer petals of paler hue. Shown in quantity by Messrs. W. Paul and Son, Waltham Cross.

NEW ORCHIDS.

FIRST-CLASS CERTIFICATES.

Odontioda Brewii.—A new hybrid, quite distinct from anything yet seen. Parentage: Odontioda Charlesworthii × Odontoglossum harryanum. In colour it is crimson maroon, and it is claimed to be the darkest Odontioda yet raised. The lip is large with a golden crest. The form of the flower is not good, but by virtue of its remarkable colouring it is likely to be the forerunner of a new type. Shown by Messrs. Charlesworth and Co., Hayward's Heath.

Miltonia Sanderæ. — This remarkable hybrid is illustrated on this page. The flowers are pale in colour, which makes the dark maroon eye all the more conspicuous. It was raised by crossing M. St. Andre with M. vexillaria G. D. Owen. Shown by Messrs. Sander and Sons, St. Albans.

Miltonioda Harwoodii Fowler's Variety. — The new-comer is a great improvement, both in colour and form, on this bigeneric hybrid. Shown by J. G. Fowler, Esq., South Woodford.

AWARDS OF MERIT.

Three new Cattleyas received awards of merit, viz., C. Mossiæ Dreadnought, a bold flower with large crimson lip with golden base, from Messrs. Sander and Sons; C. Serenata, a bright rosy pink of striking colour, from Messrs. Mansell and Hatcher; and C. Mossiæ Olympia, a beautiful variety of perfect form with soft mauve pink flowers, from Messrs. Charlesworth and Co. Messrs. Charlesworth and Co., Hayward's Heath, also gained an award for Odontioda Wilsonii Le Président, with peculiarly mottled rose pink flowers of regular outline and borne in graceful inflorescences.

The foregoing plants were shown at the Holland House Show last week when the awards were made.

A GRAND WALL SHRUB.

(ESCALLONIA LANGLEYENSIS.)

THOUGH now fairly well distributed, the merits of this hybrid Escallonia as a wall shrub are often not recognised to the extent they might be. It was raised in Messrs. Veitch's nursery at Langley, the parents being the red-flowered Escallonia macrantha and E. philippiana, whose flowers are white. Generally speaking, it is about midway between the two, the leaves being smaller than those of macrantha, while it inherits a good deal of the spreading gracefully, arching habit of the other parent. This feature is most pronounced when the principal branches are secured to a wall or other support, and the minor ones allowed to dispose themselves at will, which they will do in a pleasing and informal manner. H. P.

GARDENING FOR BEGINNERS.

HOW TO PROPAGATE ROSES BY SUMMER CUTTINGS.

THE amateur gardener, and particularly the beginner, will find the varying methods of propagating or increasing plants one of the most interesting phases of gardening. At all seasons of the year there is little or much work to do with a view to adding to one's collection or stock of plants. It may be seeds to sow, inserting cuttings, or a little budding and grafting. Among a considerable number of plants which are popular with the amateur grower, the Rose undoubtedly holds first place. While most of the Rose bushes we purchase have either been budded or grafted, most sorts, particularly the strong growers, give excellent results when propagated from cuttings. Those popular Hybrid Teas Caroline Testout, Mme. Abel Chatenay, Lady Ashtown and Killarney, the Hybrid Perpetuals Mrs. John Laing, Ulrich Brunner and Frau Karl Druschki, and the Rambler Roses Dorothy Perkins, American Pillar and Mrs. F. W. Flight are just a few of the popular sorts which thrive when propagated from cuttings.

1.—ROSE CUTTINGS IF TAKEN NOW AND PLACED IN A FRAME WILL ROOT IN A FEW WEEKS.

There is no better time than July and August to insert Rose cuttings. The usual practice is to insert cuttings outside during October and November, leaving the young plants in the cutting-beds till the following October. Practically a year, however, may be gained by taking cuttings now and inserting them in pots under glass. The best growths to make the cuttings are the shoots which bear the flowers. These are just in the right condition to insert when the blooms shatter. The shoots may be anything from 5 inches upwards in length. They will be better inserted with just a slight heel of old wood attached at the base, as shown in the illustration. Failing this, cut off the stem just below a leaf; this is termed a node, and from these nodes, when inserted in the soil, roots may be expected to push out. In taking off the bottom leaf be careful not to injure the bud in the axil, as later on any of such buds which are below the surface will push up and produce those strong basal shoots which rosarians delight to see pushing through the soil. Cuttings 4½ inches to 5 inches long when made ready for insertion, with three or four leaves, are a good average length. Light, sandy soil may be used for filling the cutting-pots, but a larger percentage of rooted cuttings may be looked for if sand alone is used. Insert four or five cuttings in 4-inch pots. The rooted cutting illustrated was inserted in sand, the photograph being taken twenty-five days after it was put in. This is ample evidence of the value of sand as a rooting medium. There is also much less liability of cuttings damping when sand is used; it is clean to handle, and when potting off the rooted cutting the sand falls away readily from the young roots. Should a few of the leaves fall off the cuttings a week or more after insertion, fears of non-success need not be entertained, provided the buds in the axils of the leaves remain plump.

The provision of a hand-light, frame, or propagating-case is the next consideration. The quickest results are obtained when a propagating-frame with a little bottom-heat is available; but as few readers possess such a convenience, attention must be directed to the value of the garden frame or hand-light for the purpose. At this season of the year, when we look for hot, sunny weather, the cutting-frame is preferable, situated on the north side of a wall, hedge, or fence. Here the cuttings will get ample light but very little sunlight to dry up the moisture, which is so necessary to prevent the cuttings from withering. A good soaking of water after inserting the cuttings will probably suffice for two or three days unless the position is a dry one.

In from three to four weeks examine a pot or two of the cuttings, and as soon as the cuttings are nicely rooted similar to the one in the centre of Fig. 2, pot each one off into a small pot, using light, sandy soil. Return the cuttings to a close frame for a few days, and when it is seen they are recovering from the check of removal, air should be admitted and gradually increased as growth proceeds. The next point worthy of note is a move into a larger pot. This time a pot 5 inches wide may be used. Should a little space on a stage in the greenhouse be available for the plants, it will help them along a lot, and by April, nine months from inserting the cuttings, nice plants should be available to plant out in the borders. These will give a few nice flowers during the summer and a plentiful supply in autumn if mulched, watered and carefully tended.

2.—ROSE CUTTINGS A FEW WEEKS AFTER INSERTION. THE CENTRE CUTTING IS ROOTED AND READY FOR POTTING UP.

HOW TO GROW GOOD LATE TURNIPS.

YOUNG, succulent Turnips are always appreciated more than those of a tough, stringy nature. It is a difficult matter to avoid a certain amount of toughness in roots raised during the hot days of summer, however careful one may be as regards cultivation. Where the summer-raised roots must be depended upon for use in the early part of, and through, autumn well into the winter, it is a good plan to lift some of them while still in a tender condition as regards flesh, and bury them in the ordinary soil on the north side of a wall or fence. The tops must be cut off, of course, and the roots buried, without washing, in the pit, being covered by quite six inches of soil. So treated, they will remain sound for many months. Where it is possible to raise young roots, however, these should be preferred. In August and through September the young roots swell rapidly.

The Soil and the Sowing of the Seeds.—Many persons are under the impression that Turnips to bulb well must be grown in hard ground, in soil well firmed by treading. Even in naturally light soils it is not necessary to firm them beyond the ordinary breaking up, drilling and raking afterwards. In heavy loams a thorough breaking up is very desirable, otherwise it is inadvisable to trample on them any more than can be helped. In quite clean ground a pinch of seed may be sown broadcast and raked in; but where small weeds are troublesome, sow the seeds in shallow drills 14 inches apart, and hoe frequently between the rows of young plants. SHAMROCK.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Rose Garden.

WITH the first crop of bloom over, many of the Hybrid Teas will be well into growth again; and to encourage this second crop it is well to look after the watering and feeding. Liquid manure may be given *ad lib.*, and, if the plants seem to require it, a dressing of artificial manure may also be given.

Green Fly and Mildew.—At this time, while the plants are fairly devoid of bloom, it is advisable to take a little extra trouble to eradicate green fly, as, after about this date, if the plants are thoroughly cleansed, they seem to keep pretty clean for the rest of the season, and the only pest to combat is mildew. For this there are many preparations on the market which will keep it under, providing the plants are regularly sprayed and the roots kept in good condition as regards moisture.

Budding.—Those who have stocks planted for budding should lose no time in getting the work done. If the weather is unduly dry, a good watering a few days beforehand will ensure the bark running nicely.

The Pleasure Grounds.

Watering Grass.—Where the grass is apt to turn up badly, it is advisable to water pretty frequently. The ordinary sprinkler is a very good friend where there is not much ground to be covered, but where the lawns are extensive it pays to keep a youth at work with the hose. In this way a good deal of ground can be covered, and though the water may not penetrate so deeply, sufficient may be given to keep the grass in the immediate vicinity of the house in a fairly fresh condition.

Plants Under Glass.

Cannas that are throwing up their blooms must be liberally treated, especially when flowering in small pots. Those that are showing colour should be removed from the main batch, as they will not stand the syringe when in bloom, though during the growing season it is very necessary to use it regularly, or spider will quickly make its appearance.

Climbing Roses in Pots.—Where these are again required for flowering under glass next season, they should have very careful attention. After cutting out all the old flowering wood and tying in the growths (say three or four) intended to flower, the pots should be partly plunged in ashes, or in the ground, in such a position where they can be well looked after, both as regards watering and feeding, as the pots, being very full of roots, will be found to dry rather quickly.

Salvia splendens.—These are now growing freely in their flowering pots, and to preserve a bushy habit the shoots should be topped over at every second or third pair of leaves. Glory of Zurich, which may be wanted in bloom at the end of August or early September, should not be pinched after the end of this month.

Azalea indica.—These plants, after making their growth indoors, should be removed to the open air, selecting a semi-shady position for them. There is a distinct advantage in watering with rainwater whenever it can be obtained. Lime in the water or in any form is distinctly detrimental to nearly all hard-wooded plants.

The Kitchen Garden.

The hot, dry weather which we associate with July and August often proves a very trying time in the kitchen garden, more particularly on light soils, but much good results from a system of mulching and watering, providing it has not been put off too long. Peas, Beans, Cauliflowers, Lettuces, Celery and Onions—in fact, all the quick-growing subjects—are greatly benefited by a good soaking of water now and again, while a hosing overhead during the very hot weather will do much to preserve a fairly healthy and clean growth. Though I have frequently mentioned the matter of hoeing in this calendar, I cannot too strongly emphasise the good to be derived from it, and when circumstances do not allow of mulching and watering, this is the next best thing.

Eschalots have not done well in this neighbourhood, the growth being poor in most instances. As soon as the tops have died down, the bulbs should be harvested. Remove them from the soil and lay them out for a day or two before storing them away in the shed. If left in the sun too long after removing from the soil they are apt to shrivel.

Late Peas.—To secure a good crop of late Peas it is necessary to give the plants every attention, and, before staking, they should be carefully thinned, and after carefully hoeing between them, a light mulching of well-rotted manure between the individual plants will do much to keep them healthy.

Fruits Under Glass.

Melons.—For very late crops seed should now be sown, choosing a small, quick-ripening variety. I have tried Barnet Hill Favourite this season, and found it one of the best in this respect; it is of excellent flavour. Fruit may be kept some time if removed from the plant before it gets too ripe and placed in a cool, airy fruit-room.

Fruit Trees, either in houses or frames, which are bearing swelling fruits must be kept well supplied with moisture at the roots. In the latter case the fruit trees should be raised up on pots or blocks, so as to keep the fruits dry, and, incidentally, to give them as much light and air as possible. Ventilate freely during bright weather to prevent scorching of the foliage, but shut up the frame early enough in the afternoon, so as to maintain as much heat as possible during the night.

Hardy Fruits.

Gooseberries and Currants that are ripening should be netted to keep off birds, and where it is desired to keep such fruit as long as possible, a piece of tiffany strained above the trees will retard the ripening process and preserve the fruit for a considerable time.

American Blight.—When the Apple trees are affected by this pest, steps should be taken to keep it down, and I have found nothing better than to go over the trees carefully, touching the affected parts with methylated spirit, taking care not to splash the foliage or fruit during the operation. If the trees are gone over two or three times during the next few weeks, it will probably keep them clean for the rest of the season.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Sweet Peas.—Attention must be given to watering if drought sets in, and if the operation is necessary, a good soaking should be given, after which, when the surface has dried somewhat, it should be stirred with the hoe. On light soils especially it will be of great advantage to mulch the crop, and grass mowings or Hop Manure will be found suitable for the purpose. By this means the roots will be kept cool and the moisture conserved.

Auriculas and Polyanthuses.—This is the time to save seed of these popular hardy flowers. The careful cultivator will have marked any specially good variety; but with the strains of seed now supplied by many firms one can hardly go wrong in saving seed for growing in masses. Select dry weather for the work.

Dividing Heucheras.—If these plants are divided just after the flowering period, they will give a fairly good account of themselves next season, whereas, if the operation is delayed until the autumn, little can be expected of them next year. The long, fleshy roots should be shortened with a sharp knife, and they should be planted deeply, so that the foliage only appears above the surface. The Heucheras are very useful for dinner-table and other indoor decorations, the gracillimum section being specially suitable for this purpose.

The Rose Garden.

Pests.—A constant watch must still be kept for the appearance of aphis and mildew, but in dealing with them care must be taken of the blooms. In the event of mildew appearing, a dusting of flowers of sulphur by means of the puff is preferable to spraying.

Spent Blooms should be removed two or three times a week, as if allowed to remain they become very unsightly.

The Rock Garden.

Propagating Aubrietias.—Where an increase of the stock is desired, no time should be lost in setting about the work, as cuttings are difficult to strike after the young growths have ripened. Under favourable conditions, however, Aubrietias root quite readily. The directions given in the calendar during the past few weeks for the propagation of Dianthuses and Cheiranthuses are quite suitable for Aubrietias. Another method is to work in some sandy loam among the young growths, attending to them with water when necessary, and in due course roots will be emitted. The plants can then be broken up in the autumn.

The Shrubbery.

Lilacs.—See that the decayed flower-trusses are promptly removed, as they are unsightly, and in their attempt to mature seeds the plants are weakened. Suckers should be spudded out.

Layering.—Many of our finer shrubs are best propagated by layering, and this is a good time for attending to this work. There are several methods of layering. One is that of simply sinking the bent-down shoot under the surface of the soil, fixing it in position with a stout peg. A second method is known as twisting, meaning that the branch receives a twist in order to stop the flow of sap and thereby encourage the emission of roots. Splitting is performed by making an incision through the centre of the shoot with a sharp knife, and tongueing is performed in the same way as Carnations are prepared for layering. In each case the branch is sunk below the surface of the soil and pegged down.

Plants Under Glass.

Pelargoniums.—As soon as these have done flowering they should be placed out of doors in a sunny position. All the old flowers should be removed, and if there is any appearance of aphis, the plants should be thoroughly syringed with some insecticide. Gradually diminish the supply of water at the roots.

Late Geraniums.—Plants intended for late autumn flowering should now be in the open, or in frames with the lights tilted high at the back and front. Keep all flower-trusses picked off, and pinch out the points of the shoots to ensure a stubby habit.

Fruits Under Glass.

Melons.—Where these are swelling their fruits, abundance of chilled water must be supplied to the roots, as evaporation is now very rapid. Do not water close up to the stems, or canker may ensue. Where it does appear, rub the affected parts with charcoal dust or powdery lime.

Cucumbers.—Plants which have been bearing for some time should receive the benefit of some fertiliser. Thin out superfluous shoots and pinch the remaining laterals at one leaf beyond the fruit.

The Hardy Fruit Garden.

Strawberry Runners which were layered some weeks ago will now have made good roots, and should be detached from the parent plant by cutting the runner immediately behind the rooted plant. Plants in plantations made in spring should not be allowed to form runners, or they will be weakened.

The Vegetable Garden.

Spring Cabbages.—Seed of these should be sown during the next week. Only quick-hearting varieties should be sown. There are a good many of these. We have had a succession of first-rate Cabbages from April to the present time from sowings of Ellam's Early and McEwan's Early Vanack sown at this date last year.

Spinach.—Sowings made now and onwards for a few weeks will give better results than sowings made a few weeks prior to this date. Spinach never germinates well in rough, lumpy soil. Manure well.

Parsley.—A sowing made now will furnish a winter supply if covered with a frame later on. If the ground is at all dry, water it thoroughly after sowing, as Parsley requires a long period for germination.

The Brassica Family.—Planting of greens, Savoys, Cabbages, Asparagus Kale and Broccoli should now be brought to a close. Water after planting if dry conditions obtain.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ARARIS AND AUBRIETIA (*X.*).—You may take the cuttings of the Arabis at any time. Shoots of 4 inches or 5 inches long, divested of their lower leaves and pricked in sandy soil in a shady place, will root to almost cent. per cent. You can bed out the resulting plants in autumn or spring. Seeds of Aubrietias for providing suitable plants for spring carpet bedding should have been sown not later than March last. Seedlings, however, are not the best for this work, since they vary in height, habit and colour, and in other ways. The only really good way to get effective masses true to colour is by raising a stock from cuttings or division.

CAMPANULA (*Mrs T.*).—From your description the Campanula you are seeking is certainly not C. muralis, which is of tufted growth, 6 inches or so high, and in June smothered with its semi-erect, bell-shaped flowers. C garganica in all its forms is of a carpeting nature, *i.e.*, flat-growing and spreading, the rather small flowers star-shaped and profusely borne from July to September. There are pale blue and white varieties. Another variety with woolly leaves is known as hirsuta. The plant would be easily obtained from any good hardy plant nursery. If the Lily bulbs are small as well as weakly rooted, throw them away and start with a fresh stock, planting, if possible, in August. This Lily (candidum) begins re-rooting soon after the flower-spikes fade.

ROSE GARDEN.

WARTY GROWTH UPON CRIMSON RAMBLER (*Captain A. S. L.*).—This growth is caused by the puncture of an insect, and although we do not think there is any fear of infection, we should certainly recommend cutting away all growths affected, as they cannot possibly be of any use.

YELLOW ROSE FOR SOUTH WALL (*Mrs. T.*).—Rêve d'Or would be an excellent Rose for your wall. It would be quite hardy enough for a south aspect. The Rose is nicely Tea-scented and blooms perpetually when established. Bouquet d'Or would bloom earlier than Rêve d'Or; that is to say, the plant would bloom the second year after planting. It is also rather more sweetly scented.

ROSE SPORT (*J. G.*).—Are you quite sure the Rose is a sport? It sometimes happens that a plant has had two buds of two different kinds budded into the root. If you look carefully and see whether the growth of the sport springs from that of the Rose you name, then, of course, it is all right. You might send us a flower with a piece of growth; then we can see from the wood if it is the same.

THE GREENHOUSE.

INJURY TO CYCLAMEN (*Welton*).—The Cyclamen appears to be drying off, and will probably start again into growth. Possibly water has been withheld. The cause of the appearance is some cultural treatment, and not a fungus or insect. The Rose sent is Alberic Barbier.

CARNATION SHOOTS FOR INSPECTION (*Wales*).—Evidently some insect has been puncturing the leaves and sucking out the sap of the Carnation here and there. Give the plant a watering with a weak solution of sulphate of potash, and if the trouble continues, spray with paraffin emulsion.

MISCELLANEOUS.

LEAF-RUST ON TOMATOES (*D.*).—The Tomatoes are attacked by the disease often called leaf-rust, due to the fungus Cladosporium fulvum. They should be sprayed with Bordeaux mixture, and the greatest care exercised with regard to the ventilation of the house. The disease is rarely troublesome where attention is paid to the maintenance of a free circulation of air and a fairly high temperature.

THREADWORMS (*H. C.*).—The long white threadworms, reaching 2 inches or 3 inches or more in length, are in no way responsible for the trouble with your plants. They are really parasitic in the intestines of beetles and other large insects, leaving them at a certain stage, when they are found on the leaves of various plants and so on. The source of the trouble of which you complain must be sought elsewhere.

GOLD-FISH OUT OF DOORS (*H. W.*).—Gold-fish withstand ordinary winters in outdoor ponds in the South of England, but we have had no experience with them out of doors in the North. Perhaps it would be as well to place them indoors for the winter. Some people feed the fish with a little bread as well as with ants' eggs. It is difficult to say how often they require feeding, for that depends entirely on the amount of food material they find in the water. It would perhaps be advisable to give them quite a small quantity at once and feed them once a day.

NAMES OF PLANTS.—*W. J. Hemp.*—Thalictrum flavum and T. minus.——*F. J. H.*—Spiræa canescens.——*C. L. Cawkell.*—Campanula carpatica; Silene pendula.——*A. G.*—1, Cannot name varieties of English Iris; 2, Dianthus plumarius variety; 3, D. superbus.——*W. G.*—1, Senecio Doronicum; 2, Lathyrus niger; 3, Sedum rupestre; 4, S. altissimum; 5, Erodium Manescavi; 6, Geranium nodosum.——*P. M., "Denbury."*—Kerria japonica (type); Hedysarum coronarium (French Honeysuckle), best raised from seed in spring.——*Mapledene.*—1, Iris flavescens; 2, Campanula pusilla.

ROSE MRS. AMBROSE RICARDO, AWARDED A SILVER-GILT MEDAL AT THE NATIONAL ROSE SOCIETY'S EXHIBITION. SHOWN BY MESSRS. S. MCGREDY AND SON. (*See page V.*)

SOCIETIES.

THE NATIONAL ROSE SOCIETY'S SHOW.

THE annual metropolitan exhibition in connection with the above society was held in the Royal Botanic Gardens, Regent's Park, on Friday of last week, and proved a great and unqualified success. The exhibitors numbered nearly three hundred, a record number. The arrangements, as usual, were excellent, and reflected the greatest credit on the courteous secretary, Mr. E. Mawley, and the members of the council.

NURSERYMEN'S CLASSES.

Both in quantity and quality the Roses displayed in the nurserymen's classes left nothing to be desired, providing further evidence, if such were needed, of the high standard of perfection that has now been reached in the art of Rose-growing. The classes for Roses in boxes and groups of Roses were alike well filled, the whole exhibit being one of unusual splendour. In Class 1, for seventy-two blooms, distinct, there were five competitors, all of them showing blooms in first-rate condition. The first prize (trophy and gold medal) went to Messrs. Benjamin R. Cant and Sons, Colchester, for perfect flowers in clean and fresh condition. Among the finest blooms were a new red seedling, Augustus Hartmann, The Lyon Rose, J. B. Clark, Frances C. Seton, Mrs. Edward Mawley and Edward Mawley. Second, Messrs. A. Dickson and Sons, Limited, with wonderfully fine blooms of Florence Pemberton, the new red H. V. Machin, Mrs. Mackellar and Ulster; third, Messrs. Frank Cant and Co., Colchester, whose exhibit contained the best Hybrid Tea in a magnificent bloom of George Dickson; fourth, Messrs. R. Harkness and Co., Hitchin, with a fine lot, including Mrs. John Laing as the best Hybrid Perpetual.

Class 2, for forty distinct varieties, three blooms of each, was won by Messrs. Alex. Dickson and Sons, Limited, Hawlmark, Newtownards, with an admirable array of blooms, in which we noted Mme. Jules Gravereaux, H. V. Machin (vivid crimson), Mabel Drew, the new deep red Mrs. Conway Jones, Mrs. David McKee and Mrs. John Laing, the last named being shown in fine condition by many exhibitors. The second prize was won by Messrs. B. Cant and Sons, Colchester, who showed the Lyon Rose in wonderful colour; third, Messrs. Frank Cant and Co., Colchester.

Mr. George Prince, Longworth, gained the first prize and challenge cup for forty-eight blooms, distinct, in Class 3. His blooms of The Lyon Rose, Maréchal Niel and Mme. C. Soupert very much enhanced the rich colouring of his exhibit; second, Messrs. Perkins and Sons, Coventry; third, Messrs. G. and W. H. Burch, Peterborough.

For twenty-four blooms, distinct (Class 4), Messrs. Chaplin Brothers, Limited, Waltham Cross, were first with a nice lot, including good solid blooms of Hugh Dickson, Her Majesty and Konigin Carola. Second, Mr. W. R. Hammond, Burgess Hill, Sussex; third, Mr. John Mattock, Headington, Oxford.

There was keen competition for sixteen varieties, three blooms of each, the first prize going to the King's Acre Nursery Company, Hereford; second, Messrs. G. and W. H. Burch, Peterborough; third, Mr. W. H. Frettingham, Beeston Nurseries, Nottingham.

For twelve white and twelve crimson Roses shown together, Messrs. Frank Cant and Co. were first with the varieties Frau Karl Druschki and Gloire de Chedane Guinoisseau.

Mr. Walter Bentley, Belgrave, Leicester, was first for nine varieties of decorative Roses in vases. Particularly fine were Mme. Soupert, Duchess of Wellington and J. Hill. Second, Messrs. Chaplin Brothers, Limited; third, Mr. E. J. Hicks, Twyford.

For eighteen decorative Roses in vases, the first prize was secured by Mr. J. Mattock for an excellent collection, among which we noted Edward Mawley and Lady Rosmore. Mr. John Pigg of Royston was second for a superb collection, among which we observed Rayon d'Or, Lady Hillingdon and Le Progrès, the yellow tones prevailing.

There was a beautiful class for twelve varieties to be shown in vases (Class 9). This was won by Messrs. D. Prior and Sons, Colchester, whose vases of Leslie Holland, Lady Ashtown, J. Hill and Bessie Brown left nothing to be desired. Second, Messrs. A. Dickson and Sons, Limited, with an almost equally fine lot, including Duchess of Portland, G. C. Waud and Mildred Grant in the best of

condition. Third, Mr. G. Prince, who showed the little-known E. V. Hermanos (apricot) and Mrs. A. E. Coxhead (bright rosy red).

Mr. Henry Drew, Longworth, was a good first for sixteen Teas and Noisettes, his best blooms being Medea, W. R. Smith, Mme. Jules Gravereaux and Mrs. Myles Kennedy. Second, Mr. G. Prince; third, Mr. J. Mattock.

For twelve Teas and Noisettes, Mr. John Mattock led the way, showing beautiful blooms of W. R. Smith and Mrs. Foley Hobbs. Second, Messrs. J. Burrell and Co., Cambridge; third, Mr. E. J. Hicks. W. R. Smith was shown well by most competitors in this class.

D'ombrain Cup.—Considerable interest was centred in the class for the D'ombrain Cup, awarded to the best twenty-four Teas and Noisettes. This was again won by that successful exhibitor Mr. G. Prince, who has won this cup ever since it was first offered. For the third year Mr. Drew, also of Longworth, was second Third, Messrs Benjamin R. Cant and Sons. Among the most beautiful Roses of this class were Miss Alice de Rothschild, Alexander Hill Gray, Mme. Constant Soupert, Maman Cochet, Mrs. Myles Kennedy and Maréchal Niel.

For thirty-six vases of decorative varieties, Mr. John Mattock was first, winning the A. G. Turner Cup with a grand lot, including the single Crimson Damask, Prince de Bulgarie, Chateau de Clos Vougeot, Lady Hillingdon and General Macarthur. Second, Messrs. Frank Cant and Co., who showed Rouge Angevine in great form. Third, Messrs. W Spooner and Son, Woking.

Mr. Henry Drew was first for nine Teas and Noisettes, seven blooms of each, shown in vases. His vases of Mrs. Foley Hobbs, Miss Alice de Rothschild and Mrs. Hubert Taylor were capital; so also were Harry Kirk and White Maman Cochet shown in the second prize collection by Messrs. D. Prior and Sons. Mr. G. Prince was third.

Mr. E. J. Hicks was first for a group of eighteen varieties of decorative Roses. His vases of American Pillar and Mme. Ravary were much admired. Second, Mr. E. Hicks, Wantage Road, Wallingford, Berks, who showed the singles Irish Elegance and Irish Glory in perfect form.

In a similar class for eighteen varieties Messrs. W. Spooner and Son were first with a fine lot of Ramblers, including the charming Rosa moschata alba. Second, Messrs. Frank Cant and Co., who showed Crimson Damask in wonderfully good form.

Messrs. Frank Cant and Co. led the way for twelve Polyantha Roses. Leonie Lamesch, after the colour of The Lyon Rose, was very telling. Second, Mr. G. Prince; third, Messrs. J. Burrell and Co.

Mr. E. J. Hicks was first for twelve wichuraianas, followed by Messrs. Frank Cant and Co. and Mr. J. Pigg, the last named showing Diabolo, a fine single crimson. Lady Godiva and Alberic Barbier were two of the best varieties in the class.

Messrs. J. Cocker and Sons, Aberdeen, were first for nine blooms of any new Rose with the superb Mrs. Andrew Carnegie, of pale lemon yellow colour, and sweetly scented.

Messrs. Hobbies, Limited, gained first prize and a gold medal for a group of Roses occupying 250 square feet. Weeping standards were arranged over a groundwork of the best varieties in cultivation, with suspended baskets of such good varieties as Marquise de Sinety and Rayon d'Or in the foreground. Second, Messrs. Paul and Son, Cheshunt, Herts, for an extensive and beautifully-arranged group, in which ramblers and wichuraianas were well represented. Third, Mr. A. J. Allen.

Mr. G. Prince was first for twelve blooms of new Roses, with grand blooms of Mrs. A. Hammond, Mrs. A. E. Coxhead and Ethel Malcolm. Second, Messrs. Perkins and Sons, Coventry, who showed Lieutenant Chaure and Mabel Drew in good form. Third, Messrs. A. Dickson and Sons, Limited, who showed Leslie Holland in first-rate condition. It is a fine red that stands out well in the exhibition box.

Messrs. W. and J. Brown, Peterborough, were first for a group of cut Roses 33 feet by 3 feet, gaining the gold medal for the fourth time. It was a magnificent group, staged in a masterly way, the pillars of The Lyon Rose, Marquise de Sinety and Avoca being worthy of special mention. Mr. F. M. Bradley, Peterborough, was a good second. These two groups were among the most meritorious in the show.

Messrs. Jackman and Son were first in a similar class for cut blooms, followed by Mr. Karl Therkildsen, Old Southgate, N. Third, Messrs. Morse Brothers, Deben Nursery, Woodbridge.

Baskets of Roses.—Roses shown in baskets again afforded one of the most pleasing features of the exhibition. Messrs. Paul and Son were first for nine baskets, distinct. Lady Ashtown stands well, and made one of the best baskets, while Mme. Chatenay and Harry Kirk were also very fine. Mr. John Mattock was a good second, with Mr. Walter Easlea third, the last-named exhibitor showing a superb basket of the new decorative Hybrid Tea Cherry Page, of a wonderful cherry pink colour suffused with yellow at the base.

For five baskets, Messrs. Chaplin Brothers were first, showing The Lyon Rose and Duchess of Wellington, both in first-rate condition. Second, The King's Acre Nursery Company, Hereford; third, Messrs. R. Harkness and Co., Hitchin.

For a basket of Rayon d'Or, Mr. George Prince was an easy first, his blooms being of exquisite form and colour. He was also first for a basket of Mrs. Foley Hobbs.

A basket of the new Mrs. Andrew Carnegie gained a first prize for Messrs. J. Cocker and Sons.

AMATEURS.

In the amateurs' trophy class for thirty-six blooms, distinct varieties, there were no fewer than nine entries, each exhibitor, without exception, showing well.

A grand lot of blooms won first prize for Mr. Franklin Dennison, Cranford, Leamington Spa, the flowers being even, fresh and of splendid quality. The better blooms in this superb exhibit were Mrs. James Welch, Oberhofgartner Terks, Gloire de C. Guinoisseau, Lady Barham, Mme. Jules Gravereaux, Hugh Dickson, Mildred Grant, Mrs. W. J. Grant, White Maman Cochet, Horace Vernet, William Shean, Queen of Spain, J. B. Clark, Bessie Brown, Princess Mary Mertchersky, Mrs. Foley Hobbs, Mrs. John Bateman, Mabel Drew, Frau Karl Druschki, Mrs. John Laing, Dean Hole and Souvenir de Pierre Notting. A splendid second prize series of blooms was shown by Dr. T. E. Pallett, Earls Colne, Essex, who is to be congratulated in achieving so much. His best blooms were Mrs. Theodore Roosevelt, Avoca, Dr. O'Donel Browne, Frau Karl Druschki, Mildred Grant, J. B. Clark, Dean Hole and Mrs. John Laing. Third prize was secured by Mr. Eversfield, Denne Park, Horsham. Splendid blooms of J. B. Clark, Mrs. Arthur Coxhead, Frau Karl Druschki and Mildred Grant were very noticeable in a handsome series of blooms. Fourth prize was secured by the Rev. L. C. Chalmers-Hunt, Willian Rectory, Letchworth, Herts. A grand bloom of Mildred Grant was especially noteworthy in this fine exhibit.

The six exhibits in the class for twenty-four blooms, distinct varieties, made a brave show, good quality generally characterising the whole of the exhibits. Mr. Franklin Dennison in this class again led the van with a charming exhibit of attractive flowers. Mrs. James Welch, Florence Pemberton, Yvonne Vacherot, Mildred Grant, G. C. Waud, Horace Vernet, Mrs. John Bateman, Mabel Drew, Her Majesty and Bessie Brown were conspicuously good. As in the premier class, Dr. Pallett was placed second, securing this position with a beautiful lot of clean, highly-coloured blooms. Lieutenant Chaure, J. B. Clark, Mrs. A. E. Coxhead, Dean Hole, Mrs. John Laing and Dr. O'Donel Browne were all good. Third prize was won by Mr. T. Park, Askew Mill, Bedale, who had some excellent blooms on his stand.

No fewer than seven exhibits were forthcoming in the class for twelve trebles. This is always a most interesting class, and the competition in the present instance was very keen. Again Mr. Franklin Dennison excelled, leading the van with a grand lot of blooms. Those especially worthy of note were Mildred Grant, Queen of Spain, Mrs. John Laing, Florence Pemberton, Mme. Jules Gravereaux, François Michelon, Bessie Brown, Alice Lindsell and Mrs. Theodore Roosevelt. A less even lot of blooms placed Mr. Conway Jones, Hucclecote, Glos, second. Those deserving of mention were Lohengrin, Dr. O'Donel Browne, Hugh Dickson, Dean Hole, J. B. Clark, A. K. Williams and William Shean. Third prize was awarded to Mr. G. A. Hammond, Woodlands, Burgess Hill, who had several fine trebles.

Six boxes of nine blooms of any Rose except Tea or Noisette represented Class 40, the first prize in this class being offered by Messrs. Thomas Rivers and Son, Sawbridgeworth. In this case Dr. T. E. Pallett secured premier honours with superb examples of Avoca, the flowers leaving nothing to be desired. Second prize was awarded to Mr. Alexander Hill Gray, Beaulieu, Bath, with charming examples of Florence Pemberton; and with the same variety Mr. Franklin Dennison was placed third. This was a splendid competition.

The Harkness Cup, offered for twelve blooms, distinct varieties, open to all amateurs, was secured by Dr. C. Lamplough, Kirkstall, Hants, who staged a splendid set including Frau Karl Druschki, White Maman Cochet Mildred Grant and Avoca; Dr. T. E. Pallett, Earls Colne, Essex, and Mr. G. A. Hammond, Woodlands, Burgess Hill, following in order of merit.

The Hammond Cup, for six blooms of new Roses, distinct, open to all amateurs was secured by Franklin Dennison, Esq., Cranford, Leamington, who showed Mrs. Coxhead, Alexander Gray, James Welch, Mrs. A. Hammond, Duke of Westminster and Mabel Drew in excellent form and finish; Mrs. Bevill Fortescue, Maidenhead, closely following as second, and H. L. Weltern, Esq., Sanderstead, Croydon, third.

The Challenge Trophy, for Tea and Noisette Roses, value 25 guineas, was secured by Mr. A. Hill Gray, Newbridge, Bath. Among the varieties shown were White Maman Cochet, Muriel Grahame, Medea and L. M. Gray; Mr. E. E. Everfield secured second and Mrs. Bevill Fortescue third.

The Prince Memorial Prize, offered for eight distinct varieties, three blooms of each, was also secured by the same exhibitors in the following order of merit: First, Mr. A. Hill Gray; second, Mr. E. E. Eversfield; third, Mrs. Bevill Fortescue. The varieties shown in the first stand included Maman Cochet, Mrs. Foley Hobbs, Souvenir de Pierre Notting and W. R. Smith.

For seven distinct varieties of exhibition Roses, five blooms of each, to be staged in vases, Mr. E. E. Eversfield secured first with Frau Karl Druschki, Hugh Dickson, A. Coxhead, J. Laing, Lyon, Bessie Brown and Dean Hole. Mr. J. A. Hammond was a good second, and Mr. Conway Jones third.

PERPETUAL-FLOWERING DECORATIVE ROSES.

For three baskets of cut Roses in distinct varieties the Rev. J. H. Pemberton obtained first position, Mrs. Wightman taking second and H. V. Machin, Esq., third.

For seven distinct varieties in separate vases, seven stems in each vase, the Rev. J. H. Pemberton was again first, showing Lyon, Rayon d'Or, Léon Pain, Prince de Bulgarie, Lady Ashtown, J. Hill and Gustav Grünerwald.

For eighteen decorative Roses, distinct varieties, not less than three nor more than twelve stems of each variety, Mr. H. V. Machin took the leading honours; the Rev. J. H. Pemberton followed, a good second.

For a table decoration consisting of single Roses and Rose foliage only, Mrs. E. M. Burnett, Westwood Road, Southampton, secured the highest place with a beautifully-arranged table of Irish Elegance, Mrs. F. P. Wood being second, Mrs. J. W. Smith third and Miss J. B. Langton fourth.

For a table decoration of Roses (singles excepted), Miss M. West took first with a lovely-arranged table of Richmond; Mrs. G. C. Sawday, second; Mrs. A. Robinson, third; and Countess Olga Pontiatini, fourth.

SILVER MEDALS FOR BEST BLOOMS IN THE SHOW.

Nurserymen.—Best Rose other than Hybrid Tea, Tea or Noisette: Messrs. R. Harkness and Co., for Mrs. John Laing.

Best Hybrid Tea: Messrs. Frank Cant and Co., for George Dickson.

Best Tea or Noisette: Mr. G. Prince, for Mrs. Edward Mawley.

Amateurs.—Best Rose other than Hybrid Tea, Tea or Noisette: R. Foley Hobbs, for Horace Vernet.

Best Hybrid Tea: Dr. T. E. Pallett, for Avoca.

Best Tea or Noisette: C. C. Eversfield, for Mrs. Foley Hobbs.

OPEN TO GROWERS OF FEWER THAN 3,000 PLANTS.

Twenty-four blooms, distinct, tested the skill of growers in the leading class in this division. There were four excellent exhibits. First prize and Hobbies Cup were won by Mr. W. Onslow Times; second, Mr. W. Boyes; third, Mr. H. R. Darlington.

In the same division the other class was for nine blooms of any Rose except Tea or Noisette, and in this class there were five entrants for honours. In this contest Mr. W. Onslow Times, Hitchin, was placed in the leading position with an even series of blooms. Dean Hole, Mildred Grant, The Lyon, Lady Alice Stanley and A. K. Williams were his best blooms. Second prize went to Mr. W. Boyes, Middleton-on-the Wolds, East Yorks, a splendid Edward Mawley standing out prominently. Third prize was won by Mr. H. R. Darlington, Park House, Potter's Bar. Marquise Litta and Mrs. Theodore Roosevelt were splendid in this exhibit.

There were seven entries in the class for nine blooms of any Rose except Tea or Noisette, the winner being found in Mr. Eversfield, Denne Park, Horsham, who had well-coloured examples of Dean Hole in good condition. Second prize was won by Mr. F. R. Biggleston, Jesmond, Puckle Lane, Canterbury, who had beautiful examples of Frau Karl Druschki. With Mildred Grant Mr. W. Onslow Times was placed third.

OPEN TO GROWERS OF FEWER THAN 2,000 PLANTS.

The leading class was for twenty-four blooms, distinct, and there were four entries, all in superb form. This was a competition for a piece of plate, value five guineas, offered by Messrs. B. Cant and Sons, Colchester. Premier honours rested with Captain W. Jarrett Thorpe, Gransmoor, Hucclecote, Gloucester, who staged a very fresh, clean exhibit. Superb examples of Mildred Grant, George Dickson, Mrs. Dudley Cross, Mrs. Foley Hobbs, G. C. Waud, Mrs. James Welch and Dean Hole were conspicuously good. A good exhibit from Mr. H. L. Weltern, Waratah, Sanderstead, Croydon, was awarded second prize, and third prize was secured by Mr. Gulliver Speight, Market Harborough.

Class 44, for eighteen blooms distinct, was a good test of cultural skill, and there were again four entrants. In this instance the first prize was won by Mrs. E. Croft Murray, Perivale, Ryde, Isle of Wight, who had a rather uneven series—Dean Hole, Avoca, Colonel R. S. Williamson, William Shean and Mrs. John Laing. A more even lot won second prize for Mr. F. A. Govett, Holiday House, Sunningdale, who had several very charming specimen blooms—The Lyon Rose, Mrs. W. J. Grant, Dean Hole and Souvenir de Pierre Notting. Third prize was awarded to Mr. John Hart, Lochinvar, Little Heath, Potter's Bar, who had Hugh Dickson in fine condition.

In the class for six blooms of any Rose except Tea or Noisette there were eleven competitors, and the margin of difference in several cases was very narrow. First prize was won by Mr. Lewis S. Pawle with fine examples of Dean Hole. Mr. F. Crawley, Stockwood, Luton, was second with beautiful blooms of Mme. Melanie Soupert, and with Hugh Dickson, Mr. F. H. Cooke was adjudged third. This was a capital competition.

OPEN TO GROWERS OF FEWER THAN 1,000 PLANTS.

Eleven entries in the leading class for twelve blooms; distinct varieties, made an especially fine competition, the quality in some instances being exceptionally good. The first prize in this class was for the President's Silver Cup, value five guineas. This was secured by Dr. Charles Lamplough, who, as usual, had a grand, even, heavy lot of blooms. They were as follows: Mrs. Foley Hobbs, Florence Pemberton, Mrs. T. Roosevelt, William Shean, Mildred Grant, Mrs. W. J. Grant, Frau Karl Druschki, J. B. Clark, Mme. Jules Gravereaux, White Maman Cochet, The Lyon and another. Mr. Lewis S. Pawle, Beaconsfield, Bucks, was second, showing excellently well. Mrs. Theodore Roosevelt, Mildred Grant, Dean Hole and Mme. Constant Soupert were all good. Third prize was won by Mr. F. H. Cooke, Birch, Colchester, with a pretty series.

OPEN TO GROWERS OF FEWER THAN 750 PLANTS.

Again there were eleven stands in competition, and this in the leading class in this division for twelve blooms, distinct varieties. First prize was well won by Mr. Curnock Sawday, Beechfield, Weybridge, with a fresh, even lot of blooms. Mrs. Foley Hobbs, Mildred Grant, Mrs. James Welch, William Shean, Gloire de C. Guinoisseau, Mrs. J. Laing and Mrs. Myles Kennedy were his best flowers. Second prize was won by Mr. P. J. Davis, North Warners, Burgess Hill, good blooms of Mildred Grant and Mrs. Theodore Roosevelt being noteworthy. Third prize went to Mr. D. Davies, Witheridge, Beaconsfield, for a good series.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Cutting Delphinium Spikes.—Now that the flowers of this valuable decorative plant are going over, it will be found advisable to cut off the old spikes as soon as they have faded. By doing so it will encourage a second crop, which, although not so fine as the first, will be found of great value both for beautifying the garden and for cutting. A good watering at intervals during dry weather, and occasionally with weak liquid manure, will be found very beneficial.

A Shortage of Plums and Pears.—According to the monthly report just issued by the Board of Agriculture, the prospects for tree fruit have deteriorated considerably since the report issued a month ago was published. This is attributed to drought, which caused many fruits to fall prematurely, and to attacks by aphides, which have this year been particularly bad. Although in some places there are good crops of Apples, the yield as a whole is expected to be poor, while Plums and Pears are almost a failure.

A Charming Hardy Annual.—One of the most beautiful hardy annuals that we have flowering just now is Clarkia elegans Salmon Queen. This is grown as a broad edging to the kitchen garden path and forms almost a low hedge, the plants being about eighteen inches high. The double flowers, which are very freely produced, are a delightful shade of salmon pink. Near by we have Scarlet Queen, the flowers of which are salmon scarlet in colour. These two Clarkias ought to be grown wherever hardy flowers are appreciated.

The Spanish Broom.—Each year as this season comes round we are reminded of the glorious effects that are made by the judicious planting of Spartium junceum, or the Spanish Broom. The flowers are golden yellow, and this year it is flowering exceptionally well. It is not in the least fastidious in regard to soil, but it prefers a warm, sandy medium and does not object to a poor, stony one. In the early stages young plants should be stopped in order to produce bushy specimens, for when once the plants become leggy this cannot be rectified by pruning.

A New Chinese Lily.—Among the list of new garden plants just published in the *Kew Bulletin* appears a new species named Lilium warleyense, a handsome plant with a general resemblance to a fine form of L. sutchuenense. The stem is about four feet high, without bulbils. The flowers, twenty or more, are pendulous on slender pedicels about three inches across, orange red, with prominent chocolate spots, segments recurved. Without doubt this subject will prove a great acquisition as a garden plant, although we fail to see why a new Chinese species should take its specific name after an English garden. With garden varieties or hybrids this is quite another matter, but in the case of an introduced species the name becomes misleading.

A Valuable Decorative Phlox.—Few hardy plants are more attractive during late spring and early summer than the pale blue-flowered Phlox divaricata Laphamii, which is well worthy of a place in every garden. Now that the flowers are over, a number of young growths will be found upon the old flowering shoots. These make excellent cuttings, and should now be taken off and placed in sandy soil under a hand-light, when they will readily root and make good plants for putting out later. An excellent subject for mixing with them will be found in Sedum spectabile, which will come into flower after the Phloxes.

A Beautiful Flowering Sage.—Few herbaceous plants blossom for a longer period than Salvia nemorosa, and few plants are more conspicuous in a mixed border. A specimen which has been limited to a dozen growths branches to form a plant 3 feet or more in diameter by the time the first flowers open in early June, and from mid-June to mid-August it bears its bright bluish flowers freely. After the majority of the flowers have fallen there are still the reddish brown calyx lobes to look forward to, and these stand out well among surrounding flowers. As it grows in ordinary garden soil and is easily propagated by cuttings of young shoots in spring, it is a plant for everyone, and few people will be likely to find fault with it. Some know it as S. virgata.

The Double Opium Poppy.—For producing effective masses of colour in the pleasure grounds with a small amount of trouble it is doubtful if there is any annual to surpass the Poppy. The Shirley Poppy (Papaver Rhœas), the Scarlet Poppy (P. commutatum or P. umbrosum), and the Opium Poppy (P. somniferum) each has its respective admirers. A large group of the double Opium Poppy is just now providing a brilliant and imposing mass of colour at the south end of the Temperate House at Kew. Growing about three feet in height the large double flowers, in numerous rich and varied colours, are extremely showy. On the other side of the Pagoda vista, near the Flagstaff, a large patch of P. commutatum or P. umbrosum, with its scarlet and black flowers, is equally effective

A Useful Plant for Shady Places.—The common Tutsan, or Rose of Sharon (Hypericum calycinum), is one of the best plants for growing beneath the shade of trees, for, although it grows quite well in the open, it succeeds equally well under trees, and keeps in good condition right to the trunk. Throughout the year it is green, and provides a good carpet; but during June and July, when bearing its large golden blossoms freely, it is specially pleasing. Providing the ground is dug over previous to planting, it requires little further preparation. The plants may then be divided and planted in small clumps 9 inches to 12 inches apart, autumn or early spring being a good season for the work. By cutting the plant over in March, plenty of vigorous young shoots may be obtained.

CORRESPONDENCE.

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

Rose Lady Hillingdon.—I am quite satisfied with Rose Lady Hillingdon. It flowers beautifully at Fribourg on strong and erect stems, and is of the finest orange apricot hue. Pharisäer is also an excellent Rose, very free-flowering and mildew-proof; the colour is of rather a salmon pink shade. — BARONNE A. DE GRAFFENRIED-VILLARS, *Paris.*

Statices in the Greenhouse.—The various shrubby species of Statice from the Canary Islands, and the garden forms emanating therefrom, have long been popular greenhouse plants, their pleasing blue flowers remaining fresh and bright for a long time. Some of the annual kinds, too, are very pretty, one of these, remarkable for its distinctness and beauty, being S. Suworowii, which was introduced from Turkestan about thirty years ago. The manner in which the spikes are disposed gives it a decidedly uncommon appearance. In colour the blossoms vary from white to pinkish mauve or lilac. The white form was recently given an award of merit by the Royal Horticultural Society. This Statice needs to be sown early in the year and potted on as the young plants require it. Good examples may be grown in 5-inch pots.—H. P.

Lilium giganteum.—This King of Lilies does not, I fear, receive the attention which its merits deserve, so that it is a pleasure to come across a specimen of it, which I did the other day in the garden of Mr. Charles Campbell, Cloverlea, Cramond Bridge, Midlothian. Mr. Campbell, who is a keen amateur, picked up two bulbs of this Lily six years ago at an auction sale for a few pence. He planted them in his garden, which lies on a sunny slope and is formed of deep loam. For five successive seasons the plants made little growth, and hope deferred had almost made the heart grow sick when to his surprise Mr. Campbell's patience has this season had its reward. The specimens are not very large, but the foliage and flowers are about the normal size. The larger specimen, with seven good blooms, stands 6 feet 3 inches high.—CHARLES COMFORT.

Dipladenia boliviensis.—This is one of the smallest-flowered of the Dipladenias, but in many features it is decidedly one of the best. In the first place, being a native of Bolivia, it will succeed under cooler treatment than those which come from warmer regions; next, it is far less liable to the attacks of mealy bug than they are, and even if the pests effect a lodgment, they are more readily got rid of, owing to the leaves being smooth. In addition, it flowers for a long period, namely, through the summer and well on into the autumn. The blossoms of this Dipladenia are about a couple of inches in length and as much across, the colour being of the purest white, with a rich orange yellow throat, the contrast being very marked. This species, which was introduced by Richard Pearce of tuberous Begonia fame, first flowered in Messrs. Veitch's nursery at Chelsea in 1868. Given a warm greenhouse or intermediate structure, D. boliviensis can be well grown.—H. P.

Hybrid Primulas.—Under the title "Primula cockburniana and Its Hybrids" appears a short article in THE GARDEN for June 28, page 324, which is most interesting, as it touches on a race of plants that are practically in their infancy; nevertheless, they have a great future in store. Here we have been crossing them since their introduction, and have planted some hundreds of crosses annually, which on blooming have been nothing more than the type, and it is our experience that these Primulas do not cross freely. Among several good hybrids that have appeared here, one especially bears great promise. It is a cross between P. bulleyana and P. cockburniana, the first named being the seed-bearer. The colour is a shade of salmon, toning to yellow in the centre. The plant, blooming for the first time this season, has borne twenty-one good stems of blooms. One stem has thrown two adventitious stems from just below the bottom whorl of bloom, and two other stems one each. These side stems carried two whorls each, and the main stems from four to six each, which were rather closely set together and gave the plant an extraordinarily floriferous appearance. It is gratifying to note that P. × Excelsior is perennial, and it is probable that the work of evolution may have a great bearing in this direction.—D. LEWIS, *Totley Hall Gardens, Sheffield.*

A FLOWERING SPRAY OF DAVIDIA INVOLUCRATA, A NEW HARDY TREE FROM CHINA

Rose Mrs. George Norwood.—In your issue of last week, under "New Roses" at the National Rose Society's Show, I note you have my seedling, Mrs. George Norwood, down as grown under glass. It was grown outside, and it was no fault of mine if the cards were placed wrong. — ELISHA J. HICKS.

Davidia Flowering at Norwich.—I think your readers may be interested to hear that a Davidia here has borne twenty-one inflorescences; not enough for a great effect, but sufficient to give one great hopes for its future as an ornamental tree in this country.—J. A. CHRISTIE, *The Manor House, Framingham Pigot, Norwich.*

Cypripedium Calceolus.—The English Lady's Slipper is one of the best of the race of hardy Cypripediums, and I saw recently an illustration of how enduring it is under the most adverse circumstances. In going through the magnificent gardens of the Marquis of Ailsa at Culzean Castle, Ayrshire, the other day, Mr. R. G. Hepburn, the gardener, drew my attention to some plants of C. Calceolus in flower in an opening in a thicket of one of the taller Polygonums. These plants were in the garden when Mr. Hepburn took over his appointment about two years ago, but were crowded up and hidden by the growths of the tall Polygonum. Room was made for them by clearing away some of these and opening them up to the light, with the result that they are doing well. This is a striking example of the ease with which C. Calceolus will withstand the most adverse conditions.—S. ARNOTT.

A Deteriorated Duke of Edinburgh Rose.—The following incident, which I have lately learned, may be of interest to those readers of THE GARDEN who pay special attention to Roses. A gentleman living near here bought and had planted in his garden about fifteen years ago a plant of the above Rose. It flourished and for many years yielded its usual bright scarlet-coloured flowers; but in course of time it began to bear, and does still, flowers of a pink shade, the centre a deeper pink than the outside. The plant is about six feet to seven feet in height and four feet to five feet across. I was told it had never been pruned during the fifteen years, but had had on one or two occasions just a piece or two of growth cut away. This item of Rose news seems to me so out of the ordinary that I venture to ask three questions, which perhaps some Rose authority will kindly deal with: (1) Was pink the colour of either or both of the parents of the above-mentioned Rose? (2) Did change and deterioration set in as a result of neglect of pruning? (3) Is it common for deteriorating Roses to change in colour? I thought they changed only in quality and form.—C. T., *Highgate.*

Blue-Flowered Hydrangeas.—On page 323, issue June 28, "H. P." has a very interesting note on these popular plants. It is quite true that when certain preparations are applied to the soil, blue flowers result. I have had some considerable experience with blue-flowered Hydrangeas, having had specimens 7 feet through bearing dozens of blue-flowered heads, a few of the largest measuring nearly eighteen inches across. Undoubtedly there was iron in the soil, but the water was very "hard," and was conveyed to the gardens through pipes, being forced up to tanks from a pond which was filled by a stream, water trickling into it from bog and peat land on both sides. Stones on which water dripped from the pipe taps were soon coloured red. For more than ten years the flowers never failed to open blue, but on a few of the plants pink flowers developed as well as blue ones, and consistently so every year. I cannot understand why this should be. The blue flowers were as deep as Cornflowers.—G. G.

Habranthus pratensis in Scotland.—It is pleasant to come across the handsome flowers of Habranthus pratensis in a Scottish garden in the open border. This was the case the other day, when the writer observed this Habranthus flowering bravely in one of the borders in the famous gardens of Culzean Castle, Ayrshire, the seat of the Marquis of Ailsa. There was a good clump, which has been established for several years, and another one was present in another border. There were a considerable number of bulbs, bearing quite freely the handsome, trumpet-shaped, bright scarlet, Amaryllis-like flowers. This plant has acquired considerable prominence of late, largely through its exhibition at some of the London shows, where it has been greatly admired. Its success at Culzean, although this garden is highly favoured in the matter of climate, should encourage its cultivation. It is splendidly grown in some of the Eastern and Southern Counties of England, and as a hardy bulb it is worth attempting in the warmer parts of the north of the three kingdoms as well. It is properly called Hippeastrum pratense, but Habranthus pratensis is still its best-known appellation. It should be planted from 4 inches to 6 inches deep.—S. ARNOTT.

Dwarf Plants of Solanum Wendlandii.—Those who know this Solanum only as a vigorous-growing climber are surprised at the way in which it can be successfully grown as dwarf plants, each carrying a large head of its pretty lilac-coloured blossoms. A number of splendid examples were noted at the Holland House Show, and numerous were the enquiries as to how they were obtained. Such plants are really propagated from eyes put in early in February, and treated just as Grape Vines are. They are inserted singly into small pots, and plunged in a gentle bottom-heat. Under these conditions they soon start into growth, and are shifted into larger pots when necessary. During the earlier stages a temperature of 60° to 70° is maintained, but as the plants make headway a warm greenhouse is sufficient for them, as if kept in too high a temperature they run up weakly. Six-inch pots are large enough for the strongest examples.—H. P.

FORTHCOMING EVENTS.

July 23.—Flower Shows at Cardiff (two days), Sevenoaks, and Leamington (two days).

July 24.—Flower Shows at Exning, Roehampton and Romsey.

July 25.—Cheadle and Cheadle Heath Show (two days).

July 26.—Fife and Kinross Show.

THE ROSE GARDEN.

ABOUT GARDEN ROSES.

THERE is no time like the present for discussing the merits of garden Roses. One thing is very evident, viz., that the Roses we cherish as our best things in the North are by no means as satisfactory in the South. The stronger soils and greater moisture in the North certainly favour many Roses that are robust, while the lighter and drier Southern lands are favourable to weaker constitutions. The idea of the Rose General Macarthur being subject to mildew, for instance, makes us open our eyes in amazement, such a thing being unknown in moister climates. Then, again, Lyon Rose is with us so specially liable to that pest, as well as so straggling in habit, that I should never admit it in any Rose garden, though for the sake of its lovely cut blooms I might grant it a lonely corner near the kitchen garden.

I see little mention of the brilliant George C. Waud, which is such a welcome addition, as is also Commandant Felix Faure, an admirable red Rose that never seems mentioned as one of the specially desirable Roses to plant. The dwarf and beautiful Château de Clos Vougeot has hardly yet been sufficiently tried in the North, while in the South its praises are sung already. More important, perhaps, in the North than in the South is the freedom of the autumn bloom, and that is a factor in our choice of some importance. When I see such a Rose as Dr. O'Donel Browne mentioned as a desirable Rose, I feel seized with a wild desire to see that fairy place where it *is* beautiful as well as vigorous. While the grand old Rose Baronne de Prévost is still in existence, as I hope and believe it is, why grow such a coarse and inferior copy? I really think the blooms at an exhibition are so misleading to the innocent and ignorant amateur that now and again a note of warning is needed.

I often see those two good wichuraiana hybrids Gardenia and Alberic Barbier mentioned as equally good. In the hand perhaps they may be, but Gardenia flowers only once and grows so rampantly that Alberic Barbier, with less excessive vigour and (with me) absolutely continuous blooming qualities, never gets its due share of praise. I think there is a little secret that can be gained by careful observation of its growth and in the way the annual thinning out of the weaker shoots that have flowered is carried out; but I can affirm that not in one or two gardens only, Alberic Barbier flowers continuously from May to the end of October, the only Rose of that breed that is truly perpetual. Indeed, like Dean Hole, who said that "if for some offence I were only allowed to grow *one* Rose, I think I should nowadays choose Alberic Barbier" rather than the Gloire de Dijon, which he then considered the most perpetual of all Roses.

In the North neither Grüss an Teplitz nor Mme. Alfred Carrière flowers with the same certainty and profusion as in the South, while it seems to me that Dorothy Perkins and her two sports Lady Godiva and White Dorothy have found the secret of constant and late autumnal blooming, a thing much to be praised. The hardiness and vigour of the pernetiana Rose Juliet have been an agreeable surprise, and the blooms this year are even beautiful in the North, so we hope for useful developments in this strain.

Of the single Roses, none, it seems to me, can compare with Irish Elegance, both as a bush and for cutting purposes, and this Rose is as yet too little known and grown in the North. Some day I hope to hear how that fine Hybrid Tea Mary Countess of Ilchester behaves in English gardens. In the South of France it has proved the finest, sweetest and most lasting of all Roses, so that if it proves ultimately a good winter bloomer it will be a great addition to any Rose garden.

EDWARD H. WOODALL.

ROSE EDWARD MAWLEY.

THE present season has particularly suited this grand Rose. With me it has been by far the best red Hybrid Tea in the garden, surpassing even that grand variety Leslie Holland. I am particularly glad Edward Mawley is turning out so fine, for it bears such an honoured name that all rosarians wish it to be worthy of it. I am convinced it is going to be one of the best crimson garden Roses, and will be specially beautiful in a cool season and also in autumn. It is almost certain to me that Mme. Melanie Soupert was the seed parent of this Rose, crossed possibly with Etoile de France. I am hoping that by using a more double flower, such as George Dickson, as seed parent we may produce a good double bright scarlet Hybrid Tea, a colour still wanting among this class of really good exhibition standard.

The Portadown Roses are proving themselves to be valuable acquisitions; particularly the recent varieties. I cannot get myself to admire His Majesty, but can well believe in Ireland and in some other parts it will come fine at times; indeed, I have had occasional blooms of superb form. I hope Messrs. McGredy and Son will continue to provide us with novelties of the high standard they are now doing, and I am looking forward keenly to the quartet they are putting on the market this year. DANECROFT.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Cabbages for Spring.—Notwithstanding the fact that we are just in the flush of the Green Pea season, it behoves us to give consideration to the Cabbages which will assuredly be wanted next spring. The Green Peas satisfy us now, but they will not do so then, and in the spring months there is nothing sweeter than a freshly-cut Cabbage, and probably nothing healthier, either. At least two sowings of seeds ought to be made in every garden, as there must not be such a thing as failure. The end of the third week of the month is an excellent time in most seasons; but should the autumn prove mild and particularly favourable to progress, there is a decided chance that these plants will be too soft to stand the varied weather of the winter. To be on the safe side, sow again approximately three weeks later, and there is little danger that the result of both sowings will be failure. Thin sowing, early thinning and prompt transplantation are essential to success. Although it has been in commerce so many years, I have yet to find the variety to beat Flower of Spring in any season, soil or district.

Winter Greens.—The planting out of the different members of the Cabbage family to produce fresh green vegetables during the winter months is now in active progress, and the opportunity of a favourable day ought never to be missed. One cannot, of course, question the desirability of planting when the weather is showery and the soil

pleasantly moist, because the plants do not then experience the smallest check; but waiting beyond a reasonable time has nothing to commend it. Given strong, splendidly-rooted plants, there is no fear of loss, even though the conditions are not ideal. When it is decided that there shall be no further waiting, water the ground, or the stations, heavily in the morning and plant late in the evening of the same day, soaking afterwards as may be needed.

Potatoes.—The early Potatoes are coming out most satisfactorily up to now, and those who have been buying imported stuff will be appreciating the immense superiority of tubers dug from their own gardens and cooked within a couple of hours. The final earthing of the main crop and late varieties is imminent, and before it is done every plot should be sprayed with Bordeaux or Burgundy mixture as a preventive of the disease. Many people still labour under the erroneous impression that spraying does not pay. In a year like 1911, when we had continuous drought until well on in summer, it is possible that there is a waste of time and material; but we never know what the weather is going to be, and those who consistently spray twice—once at the middle of July and a second time three or so weeks later, according to the weather—will find that, taking one season with another, spraying will pay splendidly. A spraying syringe answers admirably where the area to be dressed is limited.

Tomatoes.—The plants indoors will be demanding abundant supplies of water, and probably of liquid manure, and any neglect will be paid for in loss of crop. There is no doubt that the smaller, within reason, the receptacle containing the roots, the better. The thrifty plant is short-jointed, sets its crop splendidly, and when the necessity for it arises, feeding can easily be done.

Green Peas.—It is imperative that the pods of these shall be gathered as closely as possible, to encourage the plants to continue the production of flowers. See that the soil is maintained pleasantly moist at the roots, loosen the surface with hoe or fork, and spread a thick mulching of manure along each side of the rows. Water through this, and do not forget heavy hosing on the evenings of hot, dry days.

ROCK AND WATER GARDEN.

STONE EDGINGS IN THE KITCHEN GARDEN.

THE stone edgings to the walks shown in the accompanying illustration took the place, some eighteen months ago, of grass verges, and when first completed and before the planting had time to be effective, varying opinions existed as to which was the more attractive. Now that the various plants have had time to become established—and quite a host of subjects are included—it is unanimously declared to be a fine feature. These rock edgings to the paths may be constructed at very little cost, the stone being the greatest item, and if economically placed, some good, large spaces may be provided for the stronger-growing subjects, which create a fine effect when seen in masses; and, with very little trouble, the natural soil and drainage, if not altogether suitable, may be improved. The stone used here was fairly flattish sandstone, which needs to be firmly embedded, and, if possible, some good soil added to provide a good rooting medium underneath as well as between the crevices. Pockets may be formed of varying sizes, some on a level with the walk, others slightly raised. Generally, we used two tiers of stone, and though our walks are perfectly straight and the width even throughout, the broken-up edging of stone seems quite in order, and it is evident that equally as good an effect could be produced with winding or curved paths and of irregular widths. The walks in the kitchen garden here run north and south, east and west, and though large pieces of rock do not exist to form shade, positions may be found to suit almost all plants, and the taller herbaceous plants, with the pyramid fruit trees at the back, assist in producing shaded positions. Where it is desirable to include rock and alpine plants, and a rockery proper does not exist or a suitable place cannot be found to build one, then the present idea is worth consideration, as the plants are always easily examined, and watering, damping, cleaning and top-dressing may be carried out in the most expeditious manner.

The number of plants that may be utilised is really surprising, also the quantity needed to plant it. The first season the commoner subjects were planted lavishly to produce an immediate effect; but these grew generally with such remarkable vigour that last autumn and in the early spring stringent measures had to be taken to reduce them and substitute better-class plants. Annuals in our case are left out entirely, and only a few of the dwarfest and best rock shrubs included, the Helianthemums in variety making fine patches of colour in the sunniest spots. The smaller plants of less vigorous habit are grouped together in small colonies in well-drained soil, so that they do not become so readily neglected and lost as they might be if isolated. The names of a few subjects that have done particularly well with us may not be out of place. The following are in flower now: Saponaria ocymoides, Achillea rupestris, A. tomentosa, Saxifraga Cotyledon, S. pedatifolia, S. Aizoon recta, Campanula carpatica, Veronica prostrata, Armeria maritima alba, A. laucheana, Viola gracilis, V. bosniaca, V. Papilio, Phlox pilosa, Dianthus Napoleon III., D. Duchess of Fife, D. superbus, D. fragrans, Primula japonica, P. pulverulenta, Gypsophila repens rosea, G. prostrata, Achillea serbica, Dianthus cæsius grandiflorus, Geranium lancastriense, Erinus alpinus, Aubrietia tauricola, Potentilla Miss Willmott, Hutchinsia alpina, Linaria alpina rosea, Œnothera ovata, Œ. taraxifolia and Campanula G. F. Wilson. Other subjects that have been particularly fine are Aubrietia Lavender, A. Moerheimii, A. J. S. Baker (the earliest to flower), Erysimum pulchellum, Ranunculus montanus, Saxifraga bathoniensis, S. Stansfieldii, S. Camposii and Veronica repens. The foregoing are just a few of the more vigorous growing and those that have established themselves freely and flowered profusely. A few of the choicer plants that appear to be doing well are Dianthus neglectus, D. alpinus magnificus, Campanula muralis, C. Zoysii, C. Elatines, C. Profusion, Morisia hypogœa, Achillea Kellereri, Oxalis enneaphylla, Potentilla pygmæa, Geranium argenteum, Geum montanum, Gentiana verna, Linaria concolor, Soldanella minima alba, Wahlenbergia vincæflora, Pentstemon pygmæa, Phlox Douglasii, Viola pedata bicolor, V. glabella and Asperula suberosa.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

STONE EDGINGS TO THE KITCHEN GARDEN PATH AT ALDENHAM HOUSE, ELSTREE.

THREE BEAUTIFUL CROCUSES.

Yellow: C. chrysanthus E. A. Bowles. Mauve: C. Sieberi. Purple & Buff: C. Imperati.

Hudson & Kearns, Ltd., Printers, London, S.E.

COLOURED PLATE.

PLATE 1474.

SPRING CROCUSES.

THE triumvirate of beautiful Crocuses so well shown in the coloured plate presented with this issue recall one of this season's spring shows at Vincent Square, when these flowers were shown by Messrs. Barr. I noted at the time how delightfully their colourings blended, and was delighted when, some time later, I was shown the clever portraits by which they had been immortalised. Among really good gardeners by far too few give due place to the early-flowering spring species of Crocus. Anything that will flower in January and February in our climate is of value; but when it possesses beauty and fragrance, as well as precocity, it deserves honour and attention. The garden cannot be worth digging in that will not provide enough sunny nooks for a dozen or so clumps of early Crocuses, for not only choice ledges of the rock garden backed by a heat-radiating stone, but also a bare spot at the foot of some deciduous shrub, or large-leaved herbaceous plant that must be placed well away from neighbours, is admirably suited for spring Crocuses. I find the mixed borders are wonderfully brightened at the dull time of the year if groups of twenty to fifty Crocus roots are planted round such plants, especially towards the back of the beds, where I notice that sparrows do not pull them to bits quite so badly as when they are closer to the edge of the bed.

Two of the species shown in the coloured plate are well suited for this manner of planting — Imperati and Sieberi — and both of them, in an ordinary season, should be bright with flowers before January is over. Being inexpensive, they should be planted freely, and if allowed to seed will soon spread. The form of Imperati shown is rather exceptional in the lack of purple featherings on the buff outside of the outer segments, and is, perhaps, not so beautiful as the more ordinary form in which the featherings are well marked. C. Imperati varies endlessly in this respect, and is one of the very few Crocuses in which markings change from season to season. I raised a number of seedlings of it and selected some very distinct forms and grouped them in the rock garden, but the next season I was horribly disappointed to find my patch of self-coloured buff ones were as striped, mottled and ring-straked as Jacob's variegated flock of sheep, while one special beauty I had selected for its wide crimson featherings was scarcely striped at all. I have noticed the same tendency to seasonal variation in seedlings of C. versicolor, but am thankful to say all others that I know remain constant.

C. Imperati is generally collected from the neighbourhood of Naples, and varies very much, beautiful white forms occurring sparingly, some without external feathering, and others as heavily marked as the typical form with lilac ground colour. From this latter form I have raised some very pretty pale-coloured seedlings, which are remarkably robust and large flowered. The unfeathered white forms appear to breed true when self-fertilised, as do so many true albinos, and are most likely Mendelian recessives.

C. Sieberi comes from Greece, but yet is a hardy and robust species. It has a coarsely-reticulated corm tunic, and does not seem to be so palatable to mice as some of the species with thinner coats. Its colour is a delightfully cool shade of lilac. A very bright orange throat and rich scarlet stigmata greatly add to its beauty.

There is a richly-coloured form of C. Sieberi sometimes sold as C. atticus and also as C. Sieberi purpureus, but the gem of this species is the form known as C. Sieberi versicolor. It comes from Crete, and has not been collected for some years owing to the disturbed state of that island and the evil reputation for bandits of its mountains. In this variety the ground colour is a glistening white, the orange throat and scarlet stigmata being even more conspicuous than in the type form; but its chief charm lies in the markings of the outer segments, which vary much in size and shape, and are of a rich crimson purple which contrasts vividly with the whit and orange. It is rather curious that although the stigmata are unusually large in these forms, they are very shy seeders, and so are likely to remain scarce in gardens for many years unless the Balkan Question can be speedily settled and Crete become a more law-abiding country.

The last of these Three Graces is one of the greatest acquisitions to our list of spring-flowering bulbs. It is one of a set of seedlings raised at Haarlem in Messrs. C. G. van Tubergen's Zwanenberg nursery. Mr. John Hoog of that firm kindly sent me blooms of this race some years ago, and my delight in their beauty ended in his generously sending me corms of them and naming the one here shown after me. They are a remarkable break in this very variable species, being quite three times as large as wild forms, but retaining all the good characters of the species. As may easily be seen from the drawing, the Gourd shape of the flowers of C. chrysanthus is not spoiled by the increase of size, and the soft sulphur yellow of its mother (the var. pallidus from the Bithynian Olympus) has been inherited by the babe, with the addition of a richer tone of brown madder markings at the throat. I wish I possessed the vigour and good temper of this my namesake! I know no other Crocus of the annulate section that looks so happy and smiles back at the winter sun so radiantly. Although the July air is sweet with Roses and Honeysuckle, Lavender and Lilies, it is not too soon for me to sound a note of warning that all this will pass away and January days come again, with nothing better for the nose than the wet leaves and moss in the woods, and then if you have tucked away a few plump corms of these early Crocuses in suitable nooks, not later than September, I know you will bless me when a few blooms brighten the brown earth or a tightly-rolled bud is brought into the warm room and, bursting open, gives out that mixed fragrance of Primroses, honey and saffron that seems to epitomise spring itself and may always be found in a young bloom of any of these three forms of Crocus.

E. A. BOWLES.

OSTROWSKIA MAGNIFICA, AN ADMIRABLE PLANT FOR A WARM CORNER.

FLOWER GARDEN.

A HANDSOME BORDER FLOWER.

(OSTROWSKIA MAGNIFICA.)

THIS really fine, though somewhat tender plant is seldom seen as a border flower, owing to difficulties in its culture. It requires very sandy soil in full sun, and it is worth noting that it is more often killed by damp than by hard weather. Now and then one sees cut blooms of the beautiful Ostrowskia at flower shows. Such blooms are invariably grown by expert plantsmen, who give this plant special treatment. The tuberous root is exceedingly brittle, and must be handled with care. In ordinary soil a hole should be made with a crowbar at least 2 feet deep and filled with sharp silver sand, leaving the crown of the plant 3 inches under the surface. In winter, protection by means of dry litter will be found beneficial. The flowers, mauve in colour, resemble those of a huge Campanula, to which genus it is a near relative. This is the only species of Ostrowskia known to science. It was introduced from Central Asia in 1887, and is named in honour of the Russian botanist Ostrowski.

IRIS SIBIRICA AND ITS GROUP.

IRIS SIBIRICA is a moisture-loving species, and though it will do well on a border, it is never so fine as when grown so near to water that its roots may enter therein. There are many forms of this species, but a good selection of the common blue is, I believe, the most effective. Messrs. Barr and Sons have a kind they call Blue King, and this, no doubt, is good.

A GLIMPSE OF THE IRIS GARDEN AT CLANDON PARK, SURREY.

The cultivation of Iris sibirica presents no difficulty. It divides easily, and may readily be raised from seed. Division and replanting should be effected immediately after flowering. The recognised varieties of this species are few, and are not of botanical consequence. A narrow-leaved form is known as angustifolia, a form with stiffly erect, sharp-pointed leaves and pale blue and white flowers is known as acuta, and another with white flowers, the segments of which are crisped, is the I. flexuosa of the *Botanical Magazine*, t. 1163. The variety orientalis, which is botanically distinct, Mr. Rickatson Dykes has constituted a distinct species, and I have no doubt he is right. While the pedicels of I. sibirica are of unequal length, and some very long, the capsules short and globose, and the seeds flat and D-shaped, I. orientalis has the pedicels of more equal length, the capsules longer and trigonal and the seeds thick and cubical. There is a good figure in Mr. Rickatson Dykes' "The Genus Iris." To this species belongs the ornamental form known as Snow Queen.

The group of I. sibirica is beardless and rhizomatous, with linear leaves, and may practically be recognised by having a hollow stem. Mr. Dykes, however, includes two with solid stems—I. Clarkei, a handsome ally of the hollow-stemmed I. Delavayi, with purple-violet flowers, the falls with gold at the base and white variegation just above, which has been classed with the Pseud-evansias, and tends to possess a crest and rudimentary beard, and I. prismatica, which has a reduced or nearly obsolete perianth and standards only one-sixth of an inch broad. This is not ornamental. It can be confused with no other, though, by its small standards, it recalls I. setosa and I. Hookeri. Both these differ by having sword-shaped leaves—in the case of the first green, and in the case of the latter glaucescent. Of the remaining five species in this group all are new, with the exception of I. Delavayi, three described by Mr. Dykes, and one, I. Wilsoni, by Mr. C. Wright. For the present purpose we may note them as follows, according to the striking feature of colour:

I. Delavayi (Micheli).—This has falls of deep violet blue colour with white streaks, the standards erect, of paler violet colour. In my experience this plant has been disappointing; it has not flowered freely, and it has twice died out in the very position it ought to have liked. It has a stout, creeping rootstock, with leaves 2 feet to 2½ feet long by half an inch to two-thirds of an inch broad. They are erect and strongly ribbed. The peduncle is longer than the leaves, the spathes are 2 inches to 2½ inches long, lanceolate, green, with scarious tips, and the pedicels are of the same length. The flowers are 2 inches to 2½ inches across, the tube half an inch long. The fruit is sharply angled, and about four times as long as broad. A figure will be found in the *Botanical Magazine*, 1899, t. 7661. It is native of the marshes of Yunnan.

I. Bulleyana (Dykes).—This is an ally of I. Clarkei, with standards of blue-purple, and falls mottled with the same colour on a creamy ground. From I. Clarkei this is easily distinguished by its hollow stem; the rhizome is slender, widely creeping; leaves ensiform, shining above, glaucescent below; stem about a foot high; spathes two-flowered; valves green, acute. This is native of China, and probably came from the province of Yunnan. It is, so far, doing well in the Cambridge Botanic Garden in a moderately moist bed of the bog garden.

I. Forresti (Dykes).—This is a lovely yellow-flowered species, and it is distinguished from the older I. Wilsoni by having pedicels which do not exceed an inch in length. The leaves, too, are narrow and grassy, with polished upper surface and glaucescent under surface, while those of I. Wilsoni are more like those of the Oriental forms of I. sibirica. It is distinctly an acquisition. The rhizome is slender; the leaves linear, about a foot long and a quarter of an inch broad; the stem leafy, and about a foot high; spathes one or two flowered, green, acute, and 2 inches or 3 inches long; the tube is broad, half an inch long; falls oblong cuneate; the blades almost vertical and of very obtuse aspect in the Cambridge plant; the claw veined, with brown standards, oblong lanceolate; crests quadrate. This was found in open mountain meadows on the eastern flank of the Lichiang Range in North-West Yunnan. It appears to do well in the Cambridge Botanic Garden, planted in the bog garden in a bed that is moist but not wet.

I. Wilsoni (C. H. Wright).—This is of yellow colour, the falls pale yellow, marked on the lower half with purple veins. In the case of I. Forresti flowered at Cambridge marking was slight, and consisted of dots in lines rather than distinct veins. The rhizome is shortly creeping; leaves linear acuminate, about two feet long and about one-third of an inch wide, flaccid and minutely scabrid; the scape is only a third as long as the leaves; spathes green, broadly lanceolate acuminate, 3½ inches long; pedicels 2¾ inches to 4 inches long; tube green, about one-third of an inch long; falls 2 inches long and three-quarters of an inch broad, pale yellow, marked with purple veins in the lower half; standards erect, oblong lanceolate, about one and a-half inches long and one-third of an inch broad, yellow; filaments yellow; anthers white; style branches yellow; crests obtuse, erosely denticulate. A figure of the type is given in the *Botanical Magazine*, 1910, t. 8340. The variety major has shorter pedicels, a perianth tube half as long again, longer and broader falls, standards of the same length but narrower, longer ovary, purple-marked filaments and with style arms pale brown at the midrib and towards the apex. This species was discovered by Mr. E. H. Wilson in Western Hupeh, growing in grasslands near Fang Hsien at about seven thousand feet above

sea-level. It was collected for Messrs. James Veitch and Sons.

I. chrysographes (Dykes).—The flowers of this plant are of the richest dark red-purple, velvety in texture, with central and broken flanking lines of gold. It is undoubtedly a very fine plant, and was originally raised by Miss Willmott in her garden at Warley Place, Essex. The falls are 3 inches long, and the blades, which are twice as long as the haft, droop almost perpendicularly. The flanges on each side of the haft are marked with gold on a red-purple ground. The standards are long and narrow, poised at an angle of about 45°, and point outwards as in Clarkei and Delavayi. According to the figure in the *Botanical Magazine*, 1912, t. 8433, they are narrowly spoon-shaped. The stems are apparently one-headed, from 15 inches to 18 inches long, and bear one or two reduced leaves. They are less hollow than those of I. sibirica. The leaves are linear, about half an inch or less in width, and 15 inches to 18 inches long. They curve gracefully outwards, so that the flowers rise well above them. This is one of the finest of Irises, and is very floriferous. With Mr. Dykes plants flowering for the first time produced four or six flower-stems. It is native of Western Szechuan in China, and was found by Mr. E. H. Wilson growing in thickets near Kuan Hsien from 7,000 feet to 11,000 feet above sea-level.

I. Forresti and I. chrysographes strike me as very valuable new plants. The particulars here given of all the new species I have taken chiefly from the original descriptions.

Botanic Garden, Cambridge. R. Irwin Lynch.

SIBERIAN IRISES AT CLANDON PARK.

Irises in varied and rich tones of colour form the chief feature in summer in the Earl of Onslow's garden at Clandon Park, Surrey. An immense border, stretching along the lakeside, is filled with Irises from end to end, creating a scene of unspeakable splendour at flowering-time. I. sibirica and its varieties are there in magnificent clumps, and in writing of these Mr. H. W. Blake, the able head-gardener, makes the following observations: "These are perhaps the most delicate and elegant of all the small flowering Irises. The grassy foliage and long stems, with flowers varying in colour from pure white to the darkest blue, make them most valuable for decorative purposes, and, above all, if grown in large masses they make grand subjects for the border. They will grow in almost any soil, but prefer a moist situation in full sun. Here at Clandon they are grown on the top side of the border of a large lake, while on the lower side, in still moister soil, are I. Kæmpferi. The I. sibiricas are about eighteen inches higher than I. Kæmpferi, and are planted in heavy, loamy soil approaching clay; in fact, the roots penetrate into clay, and in this they thrive and flower for quite a long period. It is most essential that the seed-pods be cut off immediately after flowering, or the plants will suffer and not be as strong for the next season's flowering. I. sibirica alba maxima does well here; so also does I. sibirica Snow Queen. These two, to my mind, are by far the best of the whites; the former is the taller of the two, has a greater abundance of flowers, and is more graceful. Snow Queen is much the larger flower and a more pure white. The stems of this variety are not as tall as I. sibirica alba, but the purity and size of the flower far surpass I. sibirica alba maxima. Several other varieties are grown at Clandon; among others, I may mention I. sibirica and I. sibirica orientalis, both splendid varieties of the blue or purple colour. Unquestionably the best of the blue varieties is the result of a cross between I. sibirica and I. sibirica orientalis (see illustration, page 364). So far it is unnamed. It has the habit of I. sibirica, while the flower is in size and shape that of I. sibirica orientalis, but of a much darker blue than that variety; the stems are tall and the foliage grassy, as in I. sibirica, which make it valuable for decorative purposes."

IRIS SIBIRICA BY THE LAKESIDE AT KEW.

PRIMULAS AT MONREITH.

THE other day I had an opportunity of seeing the Primulas in the garden of Sir Herbert E. Maxwell, Bart., at Monreith, Wigtownshire, and some interesting points were observed. P. cockburniana

IRIS SNOW QUEEN, THE BEST WHITE SIBERIAN VARIETY. (*See page* 363.)

proved to be biennial there, P. pulverulenta all died, while, rather curiously, P. Poissonii, which by most is found more tender than P. pulverulenta, has stood the winter and has been flowering splendidly. P. littoniana stood the winter, but did not flower this year, although looking strong and vigorous. P. bulleyana has again proved itself one of the best of the newer Primulas; P. beesiana has done well, and, associated with P. bulleyana, is much prettier than many would be prepared to admit did they see it with other flowers, the colour not appealing to everyone. P. Forrestii, which has been found a difficult subject in many places, looks as if it would succeed well, planted in the wall garden at Monreith. Unlike some of the other Primulas from China, it is said to do best in a dry position, and this it is receiving at Monreith, with apparently satisfactory results, although it has not flowered as yet. P. Poissonii is extremely fine, and has sent up handsome spikes in the border, even finer than I have seen it at Glasnevin, where it used to grow well in a moist place near the lake. At Monreith it is very handsome, and seeing it thus makes one regret the lack of success with it. P. Veitchii does very well in the border at Monreith. Of those mentioned now, P. cockburniana, P. pulverulenta, P. bulleyana, P. beesiana, P. Veitchii and P. Poissonii were in the ordinary border. P. Forrestii was in the wall garden in several places. P. luteola and P. littoniana were at the edge of a bed prepared for Lilies, and, one may add, a fine lot of P. capitata was growing in a similar position. P. japonica is very well cultivated at Monreith, and a specially good form of P. rosea is thriving. Saxatile Primulas are also cultivated with success. S. ARNOTT.

THE GREENHOUSE.

SHOW AND DECORATIVE PELARGONIUMS.

THOUGH some sections of Pelargoniums are fully as popular as, if not more so than, they ever were, there are others but little grown nowadays. Among these last must be included the show Pelargonium, which was at one time very generally met with. True, show Pelargoniums are often referred to, but most of the different kinds included under that head at the present day do not at all conform to the old florists' ideal of that flower. The main characteristics of the show Pelargonium of old were a flower as nearly approaching a circular shape as possible, with the upper segments more or less blotched, in many cases sufficient to almost cover the entire petals, while the lower ones were self-coloured or nearly so. Now, many of the so-called show Pelargoniums belong rightly to the decorative class; that is to say, that in which the shape of the flower and markings are quite subordinate to a sturdy habit and profusion of bloom. It is this class which appeals so strongly to the market-grower, with whom very few of the true show Pelargoniums were at all popular.

The last extensive raiser of show Pelargoniums was the late Mr. Foster of Clewer Manor, near Windsor, whose new varieties, which were annually distributed by Mr. Charles Turner of Slough, used thirty years or so ago to form one of the features of the season. One great object aimed at by Mr. Foster was the production of bright-coloured kinds, in which he succeeded in a remarkable manner. This was, however, accomplished by so much in and in breeding that the constitution of the plants became greatly weakened, the habit being thin and the flower clusters small. This led to other raisers working on different lines and the increased development of the decorative section, which has now practically taken the place of the show Pelargoniums. Another class that has almost disappeared from cultivation is the once-popular fancy Pelargoniums, whose flowers are borne in the greatest profusion. They are, however, too small for present-day ideas, when in flowers of all kinds size seems to be the most appreciated.

Valuable as all these Pelargoniums are for the embellishment of the greenhouse, they are now in many cases getting past their best, and must be taken in hand for their propagation or culture another year. When the plants are taken from the greenhouse, a good plan is to stand them out of doors for a week or ten days in a spot fully exposed to the sun, giving them at the same time very little water. Then they should be cut back hard and laid on their sides for a time. This will encourage the formation of shoots, and as soon as these make their appearance the plants must be stood upright. When the new shoots are about half an inch in length is a good time to repot the plants. They should be shaken quite clear of the old soil, have any straggling roots shortened back, and be repotted into comparatively small pots. Then, whether placed in a frame or greenhouse, plenty of air should be given, the object being to encourage as short and sturdy a growth as possible, as upon this depends the production of leaves as close to the pot as possible. The earliest of the plants so treated may be shifted into their flowering pots in the autumn, and the others in early spring. A compost largely consisting of moderately heavy loam is very

A PROMISING HYBRID IRIS BY THE LAKESIDE, CLANDON PARK.

suitable for Pelargoniums, while it should also be pressed down firmly, as light soil and loose potting are conducive to soft, sappy growth. Cuttings may be selected when the plants are cut down. H. P.

GARDENING FOR BEGINNERS.

PROPAGATING BORDER CARNATIONS AND PINKS.

THESE are two of our most popular border plants, which rarely fail to afford a lot of pleasure to the cultivator. The condition of the plants varies in different parts of the country and soils. It is a fact that in order to maintain a quite healthy stock of plants, frequent propagation is necessary. In some light soils the plants will live longer than in others of a similar nature, but in a different part of the country. Usually, I have found that those plants established in a well-worked medium to heavy loam last the longest in prime condition, producing "grass" of exceptional strength and large, well-coloured blossoms. In all instances, however, propagation is needful every year, in order to reap the very best results these plants are capable of yielding.

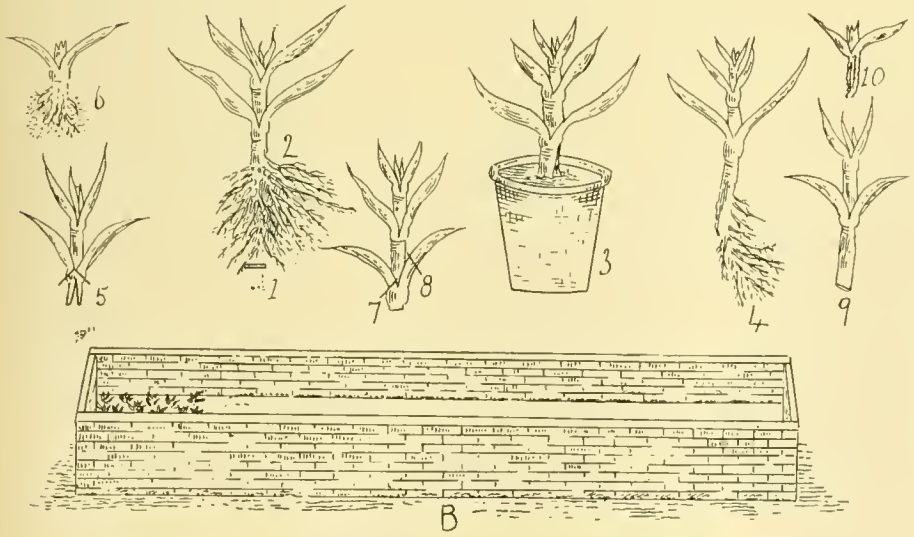
Layering Carnations.—These plants are readily increased by the layering of available side growths—those formed near the outer part of the parent plant and convenient for placing flat on the border near them. The work may be extended over a considerable period, the month of July being very suitable. I have experimented with and successfully layered the plants as late as September in a light, sandy soil; but, of course, such late propagation is not advisable. Those I layered in September were not detached from the parent plants until the following spring. A nice open compost, some pegs or flat stones, and a sharp knife are the main requisites in layering. Procure some old loam in which the grass has died about two months previously, pass it through an inch-mesh sieve, use half loam, as sifted, and half-rotted leaf-soil. To one bushel of the combined parts add one peck of road grit or a 7-inch potful of coarse silver sand. Mix thoroughly and it is ready for use.

In Fig. A, at No. 1, the older stems of the plants are shown. Nos. 2, 2, 2 represent shoots suitable for layering, and No. 3 one layered in the prepared compost, No. 4. By making a hollow, as shown, and filling it with the compost, a more regular state of moisture is secured, and this conduces to early root formation. The basal leaves must be removed from the layer, as shown at No. 3; then make a slanting, lengthwise cut through a joint, keeping the lip open by inserting grit or sand, and make the layer secure by inserting a peg as shown, or laying on it a flat stone about three inches wide. Cover the stem well with the new compost, and water as required to maintain a regular state of moisture. If the peg is inserted as shown at No. 5, the lip will be kept open; if driven in as shown at No. 6, the lip will be closed, and then root action will be retarded. Pegs made of ordinary wood, or of Bracken Fern, as shown at No. 7, or wire pegs as shown at No. 8, may be used. No. 9 shows the stone recommended, and No. 10 the new roots when commencing to grow.

THIS DIAGRAM WILL TEACH THE BEGINNER HOW TO LAYER CARNATIONS.

When Sufficiently Rooted take up the layers, cutting off the stem as shown in Fig. B at No. 1, and when replanting or potting just cover the roots, No. 2. No. 3 depicts a layer potted in a 3-inch pot; No. 4, a badly-rooted layer, the result of cutting the stem too far through at first and neglecting to give sufficient water.

Propagating Pinks.—Cuttings or pipings are taken and inserted in a cool border facing north, if one is available. As the cuttings are removed from the plants, place them in a vessel of water. When prepared for insertion in the soil, put them in another vessel of water; never allow them to become dry. The two lower leaves must be removed, as shown by the dark lines No. 5, and the stem, through the joint, may be slit open. No. 6 shows a cutting rooting nicely when so treated, but it is not absolutely necessary to slit open the stem. No. 7 depicts the right way to remove the leaf from the joint—by pulling—and No. 8 the wrong way—by cutting it off. If the stem is severed midway between the joints, as denoted at No. 9, roots would not form in many cases, but the stem would shrivel and decay, as shown at No. 10. Choice varieties, grown in low-lying districts, should be wintered in frames. G.G.



AND THIS ONE HOW TO MAKE AND ROOT PINK CUTTINGS.

TO DESTROY WEEDS ON LAWNS.

WHATEVER method of destroying lawn weeds is employed, whether it be hand weeding or the application of some chemical substance, it is advisable to stretch two lines, about three feet apart, across the plot. That portion of turf enclosed by the lines should be treated, then one line moved to a similar distance beyond the other and that enclosed portion treated. The process is repeated until the whole of the lawn has been done. By adopting this plan there is no danger of any portion being missed, and if chemicals are applied a more even distribution is ensured.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Early Chrysanthemums.—These have made exceptionally good growth so far this season, notwithstanding the dry time during June, and as the lateral growths are now fairly long, they should be carefully tied. Aphis is still somewhat troublesome, so the tips should be regularly sprayed, or the buds, which will soon be showing, may become deformed.

Disbudding.—Good quality blooms may be obtained by judicious disbudding, and many of the early varieties may be so treated as soon as they appear. After this the plants must not be allowed to get dry at the roots, and a regular system of feeding should be adopted, just as though they were in pots, using a little artificial manure during wet weather.

Sweet Peas.—These ought to be making a brave show, even those sown late in the open ground. To preserve a good continuation of bloom, keep all the stale blooms picked off regularly, and never allow the plants to suffer a check through extreme drought at the roots. Feed with natural or artificial manure at least once a week, and, providing the plants are not suffering from streak, this should keep them growing vigorously.

Seed-Saving.—It often happens that certain plants of varieties stand out from their fellows, both as regards vigour in the plants and colour in the bloom. Such plants are worth marking, and if it is desired to save seed, these are the ones that are likely to give the best results.

Annuals such as Asters, Zinnias, Coreopsis and Salpiglossis may require staking to prevent them being damaged by wind or rain, and during hot, dry weather a good watering should be given occasionally. If liquid manure is at hand, this should be used in preference to clear water.

Plants Under Glass.

Chrysanthemums. — Many of the Japanese varieties have thrown premature buds this season, probably owing to the extreme heat during the latter part of May, and to get them to throw buds again as early as possible, after the end of this month the plants must be kept growing well. Those that are well rooted may be given the assistance of a little soot or cow-manure water, not too strong at first, but increasing it towards the end of the month.

Syringing.—All the plants should be well syringed every hot day, either once or twice, as time permits, and strict attention must be given to keeping the tips of the shoots free from aphis and thrips. These latter are apt to be troublesome at this season. Spraying seems the only remedy, and if thrips are noticed it is best to spray at once, as much damage is done even if left only a day or two.

Browallia speciosa, if potted on into flowering pots now, will give a good show of bloom during the autumn and winter months. A fairly light compost of leaf-soil, peat, loam and sand suits them best. If the plants are inclined to bloom, the points of the shoots should be pinched out. This will induce a more bushy habit of growth as well as retard the flowering period. A frame will suit them well for a time, giving a little shade during the very bright weather.

Bouvardias rooted in the spring and grown on should also be ready for transferring into 6-inch pots, and the same soil and treatment as advised above will suit them well, at least till they are well rooted, when they will stand more airy treatment. Older plants that may have been planted out in frames should be liberally supplied with water at the roots, and any of the long shoots that are growing too freely should be pinched back so as to preserve a nicely-balanced plant.

Violets have not had quite the amount of rain that they like, and should be well watered at least once a week, giving a sprinkling of soot between the plants before watering. This, I think, is a little help in keeping spider under—a pest which is very apt to be troublesome during dry weather. Should it attack the plants badly, endeavour to spray the under part of the foliage with a mixture of sulphur and soft soap.

The Kitchen Garden.

Perennial Spinach.—Where this is in demand, a good breadth should now be sown in rows from 18 inches to 2 feet apart, eventually thinning the plants to about a foot apart in the rows. Sown at this date, the plants do not get so large as those sown earlier; but the growth, I think, is maintained later in the season, and the resulting leaves are much more tender.

Brussels Sprouts.—Before these become too large the soil should be pulled up to them on either side to maintain the plants in an upright position, and if the soil is light, there is no harm in giving it a thorough good treading all round the plants when in a damp condition.

Celery.—Keep all Celery well supplied with water, both early and late planted. For very early digging one or two rows should be earthed up at once, but not before the plants have had a thorough good soaking of manure-water. Add the soil a little at a time, this being preferable to burying the hearts of plants at one operation.

Turnips.—Make a sowing or two of Turnips during the next few days for autumn use, following this up at the end of the month for later use. Red Globe and Golden Ball are good varieties for late use, though it is wise to sow one of the quick-growing white varieties to pull while the other varieties are maturing.

Fruits Under Glass.

Tomatoes.—Look well after the plants that are setting their fruits, as these will come in well for early autumn use. Give a top-dressing of soil and manure to the pots as they require it. For winter fruiting a sowing should be made of Winter Beauty, Sunrise, or some such medium-sized variety. Do not give too much heat during germination, afterwards treating the plants as hardily as possible, so as to have good, stocky plants with a set or two of fruit on ready for planting or potting during September or early October.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Transplanting Biennials.—Wallflowers, Sweet Williams and other biennials should be transplanted before they get weakened through overcrowding. No manure will be required, but the ground, after being cleared of weeds, should be forked over. Generally speaking, 1 foot should be allowed between the rows and 9 inches between the plants in the rows.

Spanish and English Irises.—Where beds or clumps of these have been sown or planted with annuals to form a succession, the flower-stems of the Irises should be promptly cut over after the plants have finished flowering, so that the annuals may enjoy the maximum of light and air.

Geraniums.—The Crane's-bills are not so often seen in gardens as their merits deserve, and I would like briefly to call attention to them. The following are well worthy of a place in any collection of hardy border flowers: G. armenum, purplish crimson, 2 feet; G. Fremontii, pale purple, 1½ feet; G. ibericum, purplish blue, large flowers, 1½ feet; and G. phæum, dark purple, 1½ feet.

Pansies and Violas.—Keep the spent flowers regularly picked off, except where it is intended to save seed. Where seed is required, the earliest available should be taken as soon as ripe; if delayed, the chances are that the seed-pods will burst and the seed will be lost. Cuttings of good Pansies should be taken whenever they are available. Insert the cuttings in boxes of sandy soil and stand them behind a wall or hedge.

Pentstemons.—Keep the hoe going among the plants, and give them an occasional sprinkling of soot or other fertiliser in showery weather.

Propagating Pinks.—It is quite time that this work was attended to. Some people adopt the rather rough-and-ready method of tearing off the side branches and planting them deeply in the soil; but propagation by cuttings, or pipings as some call them, is the correct method. Take the cuttings below the third joint, trim off the lower pair of leaves, and cut the stem cleanly immediately below the joint; insert in boxes and place in a cold frame. Keep rather close and shade from bright sunshine until rooted; then gradually inure to air and light.

The Rose Garden.

Pinching.—Go over the plants and pinch out the points of all shoots showing undue grossness. The term "gross" is, of course, intended to be taken relatively. What would be a gross shoot on a Papa Gontier might be a very weak shoot on a Hugh Dickson. The thing to aim at is to maintain the balance of growth on the individual plant.

Climbers.—Attention should be given to tying in the young growths of climbers on arches, trellises, or pillars; those on walls should be nailed in. If aphides appear on the succulent points of the shoots, a puff of Tobacco powder will kill the insects.

Plants Under Glass.

Chrysanthemums.—Attend to the tying of the shoots as growth advances. A watch will have to be kept for earwigs, and if they appear they can be trapped by placing pieces of crumpled paper among the shoots. The traps should be examined every morning.

Francoas.—Only in very mild localities can the Francoas be considered hardy, but they are very useful for conservatory decoration. As the flower-stems develop they should be staked and tied. For such slender stems I prefer wire stakes. Spring-sown seedlings should now be ready for potting up into 4-inch pots. Cold-frame treatment is what these young plants require. F. ramosa (white) and F. souchifolia are both worthy of cultivation.

Dendrobiums.—Those which have finished their growth will be benefited by having a rather lower temperature and slightly drier conditions, both at the roots and in the atmosphere.

Fruits Under Glass.

Peaches.—In houses where the fruit has been gathered, the border should be examined, and if dry a moderate watering should be given. Continue to use the syringe or garden engine freely, and give abundance of air night and day.

Tomatoes.—Late crops in pots should be top-dressed as soon as roots appear freely on the surface. All laterals should be promptly pinched out, and tying should receive prompt attention.

The Hardy Fruit Garden.

Strawberries.—Plantations which are to remain another season should, as soon as the crop is picked, be cleared of weeds, and unless the runners are wanted for spring planting, they should be cut away. It will also tell on next season's crop if the plants receive a dose of liquid manure or a top-dressing of some approved fertiliser, to be applied in showery weather. The two correct periods for such an application is the present, in order to assist in the formation of strong crowns for next season's effort, or just after the fruit has set, to assist in swelling it.

The Kitchen Garden.

Jerusalem Artichokes.—On rich, heavy soils this crop is inclined to run too much to stem. Where such is the case, it is a good plan to pinch the plants when they have attained a height of from 5 feet to 6 feet. Under the above conditions they are also apt to be blown over by the autumn winds. If a few tall stakes are driven in and a line of twine is run round the plantation, it will help to obviate the evil.

Early Celery.—I am not a believer in earthing-up Celery at a very early stage, as it tends to retard growth; but the earliest planting should now be ready for a first earthing-up. It pays to tie up the plants with raffia previous to earthing-up, cutting it away after the earth has had a few days to settle about the plants. See that all side growths are removed before commencing to earth-up the crop.

Clearing Off Early Crops.—As soon as early crops of Peas, Cauliflowers, or Potatoes have been harvested, the haulm and stalks should be cleared off and removed to the refuse-heap, or dug down if the ground is to be trenched for another crop

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

IMPENDING RETIREMENT OF SIR HARRY J. VEITCH.

IT is with keen regret that we learn of the approaching retirement of Sir Harry J. Veitch, because it also means the disposal of the Veitchian Nurseries; but when we remember that he has already passed the allotted span of life, we can fully understand that the time has arrived for him to seek some respite from the strenuous duties connected with the directorship of such a large firm as Messrs. J. Veitch and Sons, Limited, of Chelsea. The lease of the Coombe Wood Nursery expires on Lady Day, 1915, so the present has been thought a suitable opportunity to decide the fate of this famous establishment, viz., to offer the nurseries and stock for sale; but some time will probably elapse before they are finally disposed of.

A few remarks on the history of the firm will, no doubt, be of considerable interest to the majority of our readers. Like so many other business houses, it had a small beginning, and so far as the records show, the original John Veitch came from Jedburgh in Scotland to Devonshire, and occupied a small portion of land at Killerton in 1808. Eventually his son, Mr. James Veitch, took command, and, to enable him to compete with other nurserymen, he purchased some land at Exeter in 1832, which was known as the Mount Radford Nursery. In April, 1853, the old-established business of Messrs. Knight and Perry of King's Road, Chelsea, was purchased by Mr. James Veitch, jun., at that time associated with his father at the Exeter Nursery, and was destined to become the head-quarters of a firm which will leave an indelible mark upon horticulture in all its aspects. His interest in the Exeter firm ceased in 1864. At this time the outside nursery covered about twenty acres. Fruit trees were grown on ground opposite the Chelsea Nursery, which were later transferred to Southfields, Fulham, and then to Langley and Feltham.

The Coombe Wood Nursery was begun in 1856, and this has been the home of everything choice and rare in the way of trees and shrubs. The first part of the Langley Nursery, where hardy fruits are cultivated on a large scale, also Roses, herbaceous plants and special crops for seed, was purchased in 1880. At Feltham fruit trees, Vines, bulbs and greenhouse plants are to be seen in great variety, while at Chelsea a big trade is done in seeds and various exotics.

With this slight digression we will pursue the family tree. In 1865 Mr. J. G. Veitch and Mr. Harry J. Veitch were admitted to partnership, and at the death of Mr. Veitch, sen., in 1869, the business was carried on by the two gentlemen just named. The partnership did not, however, last long, for Mr. J. G. Veitch died, at a comparatively early age, in August, 1870. Mr. Arthur Veitch then joined his brother Harry, but he having also died in 1880, for thirty years Mr. Harry J. Veitch was solely responsible, and it is probably due to his enterprise and energy that such progress was made during this period. He was succeeded in 1900 by his nephew, Mr. James H. Veitch, who died on November 20, 1907; but a year previous Mr. (now Sir) Harry J. Veitch had again assumed the managing directorship which he is about to finally relinquish.

Messrs. Veitch have from time to time despatched travellers to various parts of the globe in search of new plants. Among the first were the brothers William and Thomas Lobb, the former collecting in California and South America, and the latter in India and Malaya, who introduced the first Nepenthes and the blue Vanda cærulea. Richard Pearce travelled in Chile, Peru and Bolivia; John G. Veitch visited Japan, the South Sea Islands and Australia; David Burke went to Brazil, the East Indies, Burmah and Colombia; Henry Hutton to Java and the Malay Archipelago; Carl Kramer collected in Japan and Costa Rica; Gottlieb Zahn in Central America; Walter Davis in Brazil and Peru; George Downton in Central and South America and the islands of Juan Fernandez; J. Henry Chesterton in South America; A. R. Endres in Costa Rica; Gustave Wallis in Brazil, New Granada and various parts of Tropical South America; Peter C. M. Veitch, Australia, South Sea Islands and Borneo; Guillermo Kalbreyer, the West Coast of Africa and Colombia, South America; Christopher Mudd, South Africa; F. W. Burbidge, Borneo; Charles Maries, Japan and China; Charles Curtis, Madagascar, Borneo, Java, Sumatra and the Moluccas; J. H. Veitch travelled through India, Malaysia, Japan, Korea, the Australian and New Zealand colonies; E. H. Wilson, Central and Western China, and on the Tibetan frontier; while W. Purdom has only recently returned from a visit to China. It is impossible to enumerate any of the fine plants sent home by this host of collectors; but we might add that Messrs. Veitch have supplied material for upwards of four hundred plates in Curtis' *Botanical Magazine*—surely a record of which any firm might feel justly proud.

Many plants will still keep the name of Veitch alive, especially Lilium auratum (the Golden-rayed Lily of Japan) and Ampelopsis Veitchii, which is represented upon thousands of dwellings. Messrs. Veitch can also claim to be the pioneers of hybridisation, and it was their foreman, John Dominy, who raised the first hybrid Orchid. Seden continued this work, and John Heal devoted much time to the crossing of Hippeastrums, tuberous Begonias, Rhododendrons, &c., and Nepenthes and hardy fruits have received attention.

The foregoing is only a brief sketch of the history of the Chelsea firm, and in conclusion we earnestly hope that Sir Harry J. Veitch will be spared for some years to enjoy a well-earned rest. No man has done more for horticulture, and his interest in gardening charities is well known, for "Large is his bounty, and his soul sincere."

THE EDITOR'S TABLE.

Hybrid Primulas from Ireland.—Mr. J. A. Cooper, the Lissadell Nursery, Sligo, sends some beautiful hybrid Primulas of the pulverulenta and cockburniana types. Some of these are extremely pleasing, particularly No. 1, which has glowing scarlet flowers of large size. No. 2 has flowers of similar colour but not quite so good form. No. 12 has flowers of glowing orange scarlet, but the petals are too wide apart; it is, however, worth growing for its wonderful colour. No. 7 has blooms of a softer orange scarlet hue, and No. 6 is of deep crimson colour. The petals of this, like those of No. 12, are too far apart, a fault that will no doubt be remedied in time. Mr. Cooper writes: "We are sending you by parcel post to-day some specimen spikes of our hybrid Primulas, which may be of interest to you. We have labelled them under numbers."

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

INJURY TO THE LEAVES OF HARDY PLANTS (*H. B. B.*).—The leaves are mined by the larvæ of a small two-winged fly, probably the Chrysanthemum fly. Spraying when the attack is first seen with a nicotine wash is the best thing to do, or, if the leaves are sprayed with paraffin emulsion early in the season, the flies may be kept from laying their eggs.

CANTERBURY BELLS NOT DOING WELL (*Dalbeattie*).—Several creatures seem to be attacking the lower part of the Canterbury Bell sent and helping to its destruction. Are there many slugs or snails about? These often begin the work by nibbling the part near the root, and it is continued by other pests. The number and kind of different creatures present suggest the probability that there is insufficient lime in the soil. There is nothing in the Pinks to account for the decay of the flowers. Their appearance suggests much wet as the cause of the trouble.

DOUBLE WHITE NARCISSUS (*J. G.*).—The bulbs sent are very small, while their crowded condition in any case would have precluded a good flowering. This variety is virtually a sub-aquatic, and, failing such conditions, should be given a cool place and the soil heavily dressed with cow-manure. If the whole of your bulbs are in the same condition as those you sent, you should lift and separate them at once, and in the replanting arrange the bulbs 5 inches or 6 inches deep. If treated as advised, they may remain undisturbed for years. In any case this variety should never be subjected to annual lifting and drying.

IRIS RETICULATA (*K. E.*).—This is a bulbous-rooted species flowering in the open in February and March, and growing, according to the strength of the bulbs, 6 inches to 9 inches high. The flower is coloured deep purplish violet, each of the lower petals (falls) having a golden blotch on it. The species is quite amenable to pot culture, should always be grown in very sandy, loamy soils, and in the open be planted about three inches deep. If the Violas are infested at the root with tiny white grubs and white mould, the cause of their sickly appearance is obvious. All you can do is to lift them, and having washed away all the soil, replant them in a new position. If the plants are very poor, you had better discard them and start with a fresh stock. The old position should have a free dressing of lime. The name of the plant is Santolina incana.

HERBACEOUS BORDER (*X.*).—You cannot do better than retain the poles for Rambler and other Roses throughout the entire length of the border, as no plants, rightly treated, are capable of a greater summer display than these. For the rest, you should now layer the Carnations and so obtain a larger stock. Lift the Spanish Irises now, so that the border may be made as free as possible for digging or trenching. Prior to this operation a good dressing of lime and a liberal one of manure will assist materially. With the trenching completed, you should obtain selections of Pyrethrums, herbaceous Phloxes, Irises (Flag and other sorts, also English and Spanish), together with such Lilies as candidum, croceum and umbellatum, and plant in free groups throughout. Then in spring you might plant the hybrid Pentstemons, which from July to September make a gay show. As you are interested in making the border a success, you should obtain from this office a copy of the "Hardy Flower Book," by E. H. Jenkins, which not only contains much valuable information, but includes plans showing how the plants should be arranged. Its price is 2s. 9d., post free.

FRUIT GARDEN.

DISEASE IN GOOSEBERRIES (*Reader*).—The Gooseberries appear to be attacked by the fungus Botryrophæria ribis, to which reference was made in our issue of July 5. There is no curative treatment, and all dead and dying branches should be removed as completely as possible and burned. We think it would conduce to the health of the bushes to spray them in winter with a solution of 2lb. of caustic soda in ten gallons of water

PEACH TREE DISEASED (*F. T.*).—The Peach is suffering from the attack of the fungus Exoascus deformans, causing Peach-curl disease. This is usually more abundant where the plants have been exposed to winds and draughts. All the affected parts should be removed and burned, and next year the tree should be sprayed with ammoniacal copper carbonate soon after the buds burst.

INJURY TO RASPBERRIES (*H. T.*).—The white patches on the stems of the Raspberries sent are symptomatic of the disease due to Hendersonia rubi, but you do not send the lower part of the stem, where the disease is probably worse, so that we cannot say exactly whether this fungus or some other is at work. Spraying with Bordeaux mixture at the strength used for spraying Potatoes should be done, but not within three weeks of picking the fruit. The old canes should be cut out as soon as possible, and the young ones sprayed with the Bordeaux mixture, or with potassium sulphide, 1oz. to three gallons of water.

MISCELLANEOUS.

CRESTED LEAVES ON BRASSICAS (*W. L. Y.*).—The outgrowths on the Brassica are very curious, and frequently occur, no one knows why. They are associated with a derangement of the internal tissues of the plant, and occasionally appear to be associated with damage to the terminal bud.

NAMES OF PLANTS.—*G. S. D.*—1, Mimulus glutinosus; 2, Rose Tuscany.——*F. W., King's Lynn.*—Rose Alberic Barbier.——*F. M., Selly Oak.*—Roses: 1, Mme. Hoste; 2, Abel Carrière; 4, Nadia; 8, Captain Christy; 12, Anna Olivier; 17, Rev. A. Cheales; 18, Viscountess Folkestone; 19, Lohengrin; 20, Reliance; 21, Mme. C. Guinoisseau; 23, Baron de Bonstetten. Others had fallen or were cut too small to be able to distinguish. ——*L. B. C.*—Roses: 1, Mrs. W. J. Grant; 2, M. Desir; 3, Prince C. de Rohan; 4, Ducher; 5, Jean Ducher; 6, F. Dubrieul; 7, Rêve d'Or; 8, Mme. G. Luizet. The flowers were poor and difficult to name with accuracy. ——*A. P., Sussex.*—1, Colutea species, send when in flower; 2, Lythrum Salicaria (Purple Loosestrife); 3, Erigeron speciosus; 4, Coreopsis species, send when in flower.

SOCIETIES.

HANLEY FLOWER SHOW.

THIS was held in Hanley Park on Wednesday, July 2, under happy auspices, in pleasant weather and under as bright skies as the atmosphere of these parts admit of, charged as it is for miles round with a haze or mist of smoke and dust arising out of the immense industry associated with the far-famed Staffordshire Potteries. If the sun is, unfortunately, somewhat obscured by the above conditions, a stranger has not long to remain in the Potteries before he finds out the fact that the sunshine which is born of the love of flowers and gardening is shining its brightest at Hanley on that day. The park in which this show, the seventeenth of the series, was held is one of the prettiest, best laid out and planted parks in the Midlands. A little more than twenty years ago it was a series of cinder-heaps! What a transformation wrought by the enterprise and public spirit of the governing authorities, with the help and through the agency of that art, the art of gardening, we all love so well! The committee and all concerned are to be congratulated on the extent and high quality of the exhibits throughout the show.

The groups of plants arranged for effect, of which there were five, filled the centre of one of the largest tents. A grand and effective sight they presented collectively, and, considered singly, nearly all were excellent. Messrs. Cypher and Sons were a good first; second, Mr. W. R. Manning, Dudley; third, Mr. W. A. Holmes, Chesterfield; fourth, Mr. W. Howson, Market Drayton; fifth, Mr. R. Simpson, Selby.

The classes for specimen plants, both flowering and foliage, were fairly well filled, and the competition was in many cases keen, Messrs. Cypher being the chief first-prize winners.

The class for twelve table plants brought out some of the daintiest and best-grown plants of this description we have seen for a long time. First, Mrs. Meakin, Dorlaston Hall; second, Mr. B. Howson; third, Mr. F. Winger, Wolstanton.

ROSES.

Of these there was a lovely show, a whole tent being chiefly devoted to them.

In the class for seventy-two, the first prize went to Messrs. A. Dickson and Sons, Newtownards; second, Messrs. Harkness and Co., Hitchin; third, The King's Acre Nurseries, Hereford; fourth, Mr. W. H. Frettingham, Beeston Nurseries, Notts.

In the class for forty-eight, Mr. Frettingham was first; second, Messrs. Harkness and Co.; third, Messrs. A. Dickson and Sons.

In the class for thirty-six the competition was keen, and many of the specimens were of superb quality. Messrs. Harkness were first; second, Mr. W. H. Frettingham; third, Messrs. A. Dickson and Sons; fourth, The King's Acre Nurseries.

In the class for twelve new Roses, distinct, introduced since and including 1911, Messrs. Perkins and Sons of Coventry were first; second, Messrs. A. Dickson and Sons; third, The King's Acre Nurseries; fourth, Messrs. Harkness and Co.

There were many other classes for Roses, including one for twenty-four Hybrid Teas. Messrs. Perkins and Sons were first; second, Messrs. Harkness and Co.; third, Messrs. A. Dickson and Sons.

Twenty-four Teas or Noisettes: First, Mr. W. T. Mattock; second, Mr. W. H. Frettingham; third, The King's Acre Nurseries.

Twelve white Roses, one variety: First, Mr. W. H. Frettingham; second, Mr. W. T. Mattock; third, Burch Nurseries, Peterborough.

Twelve yellow Roses: First, The King's Acre Nurseries; second, Messrs. Perkins and Sons; third, Mr. W. T. Mattock.

Twelve pink Roses, one variety only: First, Messrs. A. Dickson and Sons; second, Messrs. Harkness and Co.; third, The King's Acre Nurseries.

Twelve red or crimson Roses, one variety only: First, Messrs. Perkins and Sons; second, Burch Nurseries; third, Messrs. Harkness and Co.

TABLE DECORATIONS.

Not the least beautiful and interesting was the tent devoted to these artistically-decorated tables. We do not know to whom the credit of introducing these decorated tables is due, but we do know the vast improvement which has taken place in the harmonious blending of colours, and in the light and artistic way in which the flowers have been arranged, since the introduction of these classes.

The first class in this section was for tables decorated with Roses alone, no other foliage than their own permitted. First prize went to Mr. W. T. Mattock; second, Mrs. A. J. Blair; third, Mr. S. Sims, Borrowash.

The second class in this section was for tables decorated with other flowers than Roses. Mrs. A. J. Blair was first; second, Messrs. Jervis and Sprowson; third, Miss Benyon.

Collections of hardy perennial flowers, no annuals, duplicates, or mixed bunches of flowers allowed. The magnificent collections of these which are always forthcoming at this show are a source of much interest to the public. Their growth may be enjoyed by all alike who may have a large or small garden, and on this account their merits appeal to the masses in particular. Messrs. Harkness and Co., Bedale, were first; second, Mr. F. Bouskell, Market Bosworth; third, Messrs. Gibson and Co., Bedale.

SWEET PEAS.

For a collection of twelve varieties, twenty-one stems of each, the first prize went to Mr. F. R. Minshall, Market Drayton. No other award was made.

FRUIT.

Considering the earliness of the season for many fruits, such as Muscat Grapes, Apples, Pears, and Plums, the exhibition of these was good.

In the class for a dessert table decorated with flowers and foliage, the exhibit which took the first prize consisted of really superb fruits, the exhibitor being Mr. Doe of Ollerton. His Black Hamburgh, Madresfield Court and Muscat Grapes were splendid specimens of the Grape-grower's skill, judged from all points. Second, Lady Beaumont; third, Mr. W. T. Mattock.

Collection of twelve dishes of fruit, not less than eight kinds and not more than two varieties of a kind, to include black and white Grapes, two bunches of each variety: First, Lady Beaumont, Carlton Towers, with an excellent collection; second, Mr. S. Sims, Borrowash.

In the class for six distinct dishes of fruit, that veteran fruit-grower and exhibitor, Mr. Bannerman of Blithefield, was an excellent first; second, Mr. J. Doe.

In the class for four bunches of Grapes, two black and two white, Mr. Doe was first, Lady Beaumont second and Mr. Bannerman third.

The minor classes for fruit were generally well contested and the quality good.

HONORARY TRADE EXHIBITS.

These are always a notable feature of the Hanley Show, and on no occasion have they proved more attractive and received greater appreciation than this year. Messrs. M. Jenkinson and Son of Newcastle were awarded a silver challenge cup and a large gold medal for a magnificent collection of Roses; Mr. W. Lowe, Beeston, Notts, large gold medal; Mr. R. Bolton, Warton, Carnforth, large gold medal for a fine collection of Sweet Peas; and Messrs. Jervis and Sprowson, gold medal for an artistic example of floral room decoration.

Silver medals were awarded to the following firms: Messrs. Jarman and Co., Chard; Messrs. Dicksons, Limited, Chester; and Messrs. S. R. Compston and Sons, Macclesfield.

THE CHILDREN'S SECTION.

In many respects the large tent devoted exclusively to children's exhibits is the most interesting part of this excellent show. Started in an unpretentious way a few years ago, it has now attained to great proportions, upwards of two thousand entries being received in the various sections in which the children are interested, and in most of which they receive instruction at school. Examples of children's work in the following subjects were on view. The same were judged by ladies and gentlemen of scholastic and artistic standing in the town, and suitable awards made. Plants and seeds are distributed in the spring among the children unable to provide themselves with the same; others provide their own. All start growing them at the same time, and under similar conditions as regards size of pots and so on. All the exhibits were creditable to the children, and some would have stood a good chance for a prize even among the exhibits of experts. Another strong feature is the water-colour drawings of plants from Nature. The children range in ages, we believe, from seven to twelve, and their work in this section was truly most praiseworthy, the plants in most cases being so true in colour and outline to the original. Dried specimens of wild and cultivated flowers were another most interesting aspect of this children's show. That they had been dried and pressed with the utmost care was clear by the colour of the foliage being so well preserved. Each example was correctly labelled, giving both the common and the botanical name. There were also many exhibits of plants and flowers in pastel drawing, as well as examples of trees in pencil drawing. Think of the innocent pleasures these studies afford to the plastic and easily-impressed mind of the child! Think, also, of the pleasure stored up for future enjoyment, and of the influence for good! Such studies cannot help but encourage and foster the love of flowers among those who come after us. All honour, we say, to the promoters of the Hanley Show for the lead they have taken in so important and far-reaching a movement for good among our children.

SOUTHAMPTON ROSE SHOW.

BY permission of Ellen Lady Swaythling, the annual Rose Show was held in the beautiful grounds attached to South Stoneham House on June 25, and if not so large as in some years past, was of an interesting character. The Roses were of capital quality, fresh, well coloured and consisted of an extraordinary number of newer varieties, so much so that we missed an unusual number of old favourites. The Hybrid Perpetual section was almost unrepresented, so popular have the many Hybrid Tea varieties become. The arrangements were, as they always are here, excellent, under the experienced guidance of Mr. C. S. Fuidge, secretary, and the chairman of committee, Mr. H. E. Molyneux. In all, twenty-seven classes were provided for cut blooms in the schedule, ten being open to all. The principal one was for forty-eight distinct varieties. There were four competitors, making an effective display. Mr. G. Prince, Longworth, Faringdon, was easily first with medium-sized high quality specimens. The best were Jonkheer J. L. Mock, Lyon Rose, Mme. Jules Gravereaux, J. B. Clark, Bessie Brown, Edward Mawley, Ethel Malcolm, Lady Ashtown, Mildred Grant, Oberhofgartner Terks (extra fine), Mrs. M. Sinton, Lady Ursula, Mrs. G. Shawyer, Marquise de Sinety, Medea (large), Mrs. A. Coxhead, Avoca (richly coloured), Mrs. Myles Kennedy, Mrs. Sam Ross, Mme. Melanie Soupert and Mabel Drew. Messrs. D. Prior and Sons, Colchester, were second with larger specimens, which, however, were not so clear or well coloured. Lady Barham was so fine that it was selected as the premier bloom in the open classes. Mrs. J. H. Welch, Lady Ashtown, Maréchal Niel, Victor Hugo and Mrs. Arthur Coxhead were also noteworthy blooms. Mr. J. Mattock, Headington, Oxford, was placed third.

Five competed for twelve Teas or Noisettes. Mr. Prince followed up his previous success by annexing the premier award with remarkable blooms of Mme. J. Gravereaux, Mrs. F. Hobbs, Comtesse de Nadaillac, Mrs. Myles Kennedy, Mme. Cusin, Souvenir de S. A. Prince, Mrs. Herbert Stevens (a wonderful blossom, so pure in colour), Mrs. E. Mawley, White Maman Cochet and Molly Sharman Crawford. Alexander Hill Gray, Esq., Beaulieu, Newbridge, Bath, was second with a good set. W. R. Smith, Mrs. F. Hobbs, Nita Weldon, Maman Cochet and its white counterpart were deserving of note. Mr. H. Drew, Longworth, Berks, was third.

Mrs. Foley Hobbs won for Mr. A. Gray the leading award for six any yellow or white, Messrs. Prior and Sons depending on Bessie Brown for second place.

For a representative group in 50 square feet, six entered but only two competed, which, when withdrawn at the last moment, is a serious loss to the executive. Mr. J. Mattock was easily first with a capital display of free-flowering varieties, effectively arranged in tall masses of such varieties as Lady Curzon, Irish Elegance, Crimson Damask, Marquise de Sinety, Lady Hillingdon, Juliet, Mrs. W. J. Grant, Sunhurst, Goldfinch and A. R. Goodwin. Messrs. W. and R. Rogers and Sons, Red Lodge Nurseries, Southampton, were second.

Baskets of cut Roses, in three distinct sorts, made a good display. Mr. J. Mattock was easily first with Ethel Malcolm, Lyon Rose (grandly coloured) and General Macarthur. Messrs. Prior and Sons were second with good blooms not so well displayed, Mr. Prince following.

AMATEURS.

For eighteen, distinct, four entered. Mr. W. Jarratt Thorpe, Gransmoor, Hucclecote, Gloucester, won the premier place with desirable specimens—Mrs. F. Hobbs, Ulrich Brunner, George Dickson (a good example of this new Rose), Jonkheer J. L. Mock, Bessie Brown, Francois Michelon and Princesse M. Mertchersky. Mr. A Hill Gray was second with smaller specimens, and Dr. Seaton, Woodside Cottage, Lymington, third.

In the class for six Roses, three of each variety, five took part. Mr. A. Hill Gray won with a good set, in which Lyon, Ulster and W. R. Smith were the most prominent, Mr. W. J. Thorpe being a close second.

Mr. A. Hill Gray won for twelve Teas or Noisettes with a grand bloom of W. R. Smith in particular. Dr. Seaton was second.

Open to growers of less than five hundred plants, a class for twelve blooms, distinct, was made. Dr. J. T. Gillett, Andover, with small, neat specimens, was first.

Mr. J. A. Fort, The College, Winchester, won the piece of plate for twelve, for growers of less than three hundred plants, with desirable blooms.

In the classes confined to the County of Hants, Mr. H. E. Molyneux, Brantwood, Southampton, won the Allan Gunn Cup for twelve distinct blooms, among six entrants, with an interesting set composed mainly of new varieties—Mrs. T. H. Vanderbilt, Colleen, Portia, Laurent Carle, Mrs. Muir Mackean and Mrs. Amy Hammond. Mr R. C. W. Dixon, Glenville, Hulse Road, Southampton, was a good second.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Destruction of Queen Wasps.—One of the most certain methods of keeping down a plague of wasps is that of capturing the queens. An interesting exhibit in connection with the recent Elstree and Boreham Wood Horticultural Society was the class for queen wasps, the first prize being awarded for 375 specimens.

Rose Show at Gloucester.—In responding to the toast, "The National Rose Society," at Gloucester last week, Mr. Mawley said this was the largest provincial show ever held by the National Society, the next largest having been at Saltaire, and the next largest at Luton. Not only that, but he thought the general quality of the blooms was far in excess of anything they before. A report of this wonderful display of had had Roses appears on another page of this issue.

Robert Sydenham.—It will come as a great shock to many of our readers to learn of the death of Mr. Robert Sydenham, which occurred suddenly at his offices, Tenby Street, Birmingham, on Saturday morning last. So recently as Thursday evening of last week he was present at the dinner of the National Sweet Pea Society in London, and appeared to be in his usual good health. His death removes from the gardening world a genial and generous personality that will be greatly missed by a large circle of friends. A portrait of the deceased gentleman, with a brief review of his career, appears on page 379.

A Beautiful July-flowering Broom.—In Cytisus nigricans we possess a yellow-flowered Broom of considerable value in gardens. The fact that the plants continue in flower practically throughout the month of July should not be lightly overlooked, for hardy shrubs which flower profusely at this season are not over-abundant. To obtain bushes of Cytisus nigricans in their fullest beauty it is necessary to cut the previous season's growth fairly hard back in February or March each year. By this means vigorous young shoots are induced to develop, almost every one of which later terminates in a long, slender raceme of yellow blossoms.

Wart Disease of Potatoes in Lancashire.—The Board of Agriculture and Fisheries desire to inform Potato-growers that cases of wart disease of Potatoes (Synchitrium endobioticum, Percival) have occurred in Lancashire, and to remind them that by Article 3 of the Wart Disease of Potatoes Order of 1912 they are required to report the presence of this disease on their premises to the police or other officers appointed by local authorities for the purpose, and that failure to report is punishable by a fine. Notifications may be sent to the Board, who will forward them to the proper quarter. A leaflet describing the disease and giving directions for dealing with it can be obtained from the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W., gratis and post free. Letters so addressed need not be stamped.

Propagating Rock Plants by Cuttings.—The majority of rock plants that have now finished flowering can be readily raised from cuttings. Select the young growths and place them in sandy soil under a hand-light, and keep a moist atmosphere by occasional overhead syringing during bright weather. By these means many plants that are not easily raised from seed can be readily increased. When rooted they should be potted off, and will make nice plants for the rock garden the following spring.

County Classes for Sweet Peas.—One of the most interesting features in the National Sweet Pea Society's Show, held in London last week, and a report of which appears on page v., were the classes arranged for groups of counties, these embracing the whole of the United Kingdom. We are pleased to announce that the piece of plate presented by us as first prize in the Southern Counties Class was won by Mrs. Kensington, Haverbrack, Buxted, Uckfield (gardener, Mr. F. C. Beale). As there were eight entries, this was exceedingly creditable, and we congratulate Mrs. Kensington and her gardener on their success.

Are Ten-Week Stocks Dying Out?—During the past two seasons we have been called upon at shows to judge Ten-week Stocks, the schedules rightly stipulating that the plants should be shown as grown. In nearly every instance the plants staged have been those of the intermediate section, many of which are of a perennial or semi-perennial character. These are naturally much larger and more branching than the old Ten-week Stock, and undoubtedly better plants for the garden. In judging we have hesitated to disqualify these exhibits, but it would be well if framers of schedules would ask for Stocks raised from seed sown during the current year, and thus make it quite legitimate for exhibitors to stage those of the intermediate section.

A Beautiful Rambler Rose.—A well-grown plant of the Rambler Rose Excelsa growing over the top of a broad gateway moves us to draw the attention of readers to this welcome addition. In our opinion it will before long oust Crimson Rambler from most gardens, the soft yet bright cherry red colour of the flowers being far more pleasing than those of the old variety. When we saw pot-grown plants of Excelsa shown two years ago, we were not favourably impressed with it, as the blooms had an unpleasant blue tint running through them. Outdoors, however, this is absent, and at a distance the flowers are practically the same shade as some newly-opened ones of Grüss an Teplitz that are growing near it. Excelsa is a wichuraiana Rose, has a vigorous habit similar to that of Dorothy Perkins, and flowers freely,

CORRESPONDENCE.

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

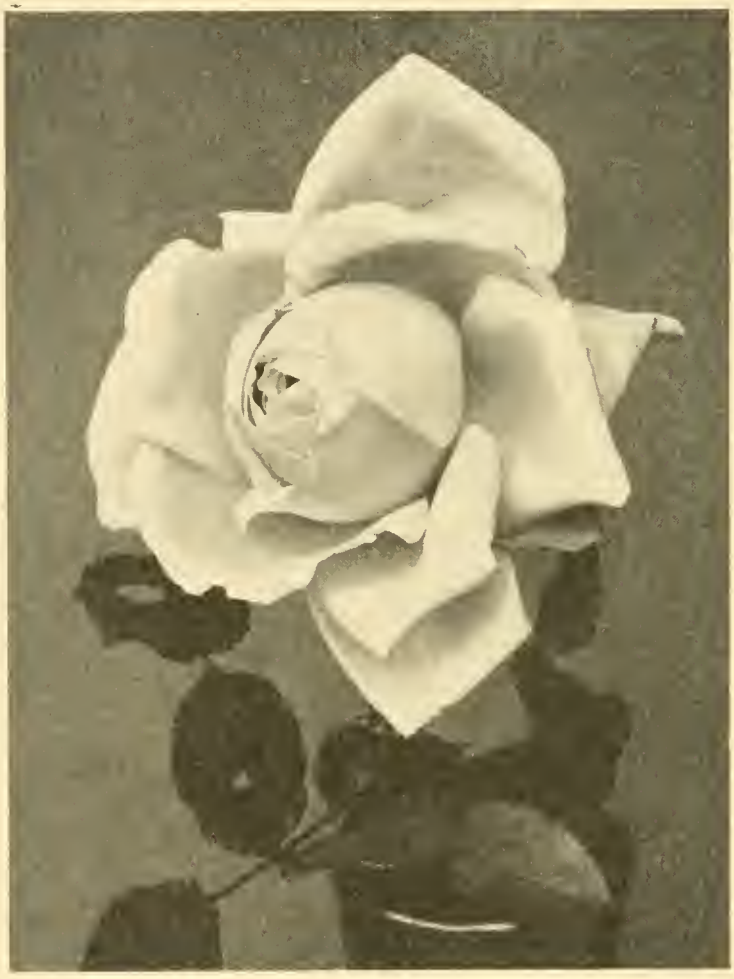
The Willow-Leaved Veronica.—Although the varieties of Veronica are numerous, the Willow-leaved species, V. salicifolia, is quite one of the best. A plant here put out five years ago at the foot of a south wall in quite a narrow border has succeeded well; it is now 6 feet across and 4 feet high, and is completely smothered with its pure white, drooping racemes 8 inches long—a glorious sight when in full flower. It is a pity the flowers do not last longer. They are short-lived, a fault with all the Veronica family. Nicholson describes this variety as bluish purple or white. In my case the flowers are pure white. Perhaps this is a superior form.

Phlomis fruticosa.—The Jerusalem Sage, as this hardy shrub is often called, although a common plant, introduced as far back as 1596 from the Mediterranean region, is not grown nearly as much as its merits deserve. In low-lying, damp districts the plants are more easily injured by frost; hence perhaps the reason for their scarcity. Here on a hill, in well-drained yet heavy soil, the specimen I have flourishes amazingly, producing a full crop of its yellow or dusky yellow whorls of blossom. My plant is about seven feet in diameter and 5 feet high, the result of ten years' growth. Even when not in flower the plant is desirable, being evergreen, with an under surface of white wool.—E. Molyneux, *Swanmore Park, Bishop's Waltham, Hants.*

The Lowberry Fruiting Well. It may be interesting to some of your readers to know that this comparatively new berry is fruiting well in the open in the garden here. When shown by Messrs. Stuart Low and Co. about three years ago, doubts as to its hardiness and fruiting properties were freely expressed. It produces long, jet black fruits in clusters similar to those of the Loganberry, but the flavour more closely resembles that of the Blackberry. It makes long, stout rods, and is excellent for covering trellis-work. I should be glad to hear the experiences of other readers with this useful berry.—J. B. S., *Redhill, Surrey.* [We have this plant fruiting freely in Essex just now, and it appears to be perfectly hardy. The fruits are sweeter and more useful than those of the Loganberry.—Ed.]

Three Good Astilbes.—For moist situations in the border, and especially by the water-side, the Astilbes are a family whose value cannot be overestimated. There are now several fine varieties of recent introduction, of which Cream Pearl, Pink Pearl and Venus are among the best. These were raised by M. Arends, and are known as Astilbe Arendsii. All three are sturdy, erect growers. Cream Pearl has, as its name implies, creamy flowers, freely produced. Pink Pearl is a pleasing shade of soft pink. Venus is a grand plant with large spikes of deep pink flowers. To lovers of hardy plants on the look-out for good things, these should be especially welcome.—E. G. Davison, *Westwick Gardens, Norwich.*

Primula Rusbyi.—It is but seldom that we meet with Primula Rusbyi in flower, and it is with pleasure that one sees a nice little plant photographed in the garden of Dr. John MacWatt at Morelands, Duns. It is one of the Primulas which, like P. suffrutescens, baffle a good many and prove difficult in many ways. Its New Mexican origin may account for a good deal of the trouble experienced with it, although on good authority we are told that it is a hardy rock garden species. It has not turned out hardy everywhere, and is really most satisfactory in a pot, in a frame, or, better still, in an alpine-house. A soil of loam, peat and sand in equal parts, with some stones among it, or with leaf-soil in substitution for the peat, I found answer best: but it is both a troublesome and shy-flowering species in the open. The flowers, which are sometimes called "a brown crimson," are a little depreciated by this description, the colour being a nice crimson-purple, with a yellow eye surrounded by a deep crimson shading. The beauty of the flower is increased by the pretty way with which the calyx is striped with farina. The longish, rather spoon-shaped leaves are toothed. It was introduced in 1881.—Alpinist.



THE NEW ROSE G. AMEDEE HAMMOND, EXHIBITED BY MESSRS. ALEX. DICKSON AND SONS AT THE GLOUCESTER SHOW LAST WEEK.
(*See page vi.*)

Good Herbaceous Borders in Scotland. Mr. John Wilkinson, agent for Captain Hope of St. Mary's Isle, Kirkcudbright, has a delightful garden at The Grange, Kirkcudbright. Many things are well done there, but perhaps the most charming feature is the way in which the hardy border flowers are cultivated and arranged. This part of the garden is cared for by Mr. Wilkinson himself, and the plants, their cultivation and their arrangement all contribute to the successful results obtained. The borders are on either side of grass paths, which give an air of peacefulness and harmony with the flowers often wanting in gardens where gravel is employed for the walks. The plants are in bold groups of one variety, and the effect through the varying seasons is very beautiful. The other day, although the great Oriental Poppies, which are so fine at The Grange, and other earlier flowers were over, the effect of the borders was charming, especially in the long borders on either side of the main pathway. Great Delphiniums, clumps of Alstrœmerias, Veronicas, white and red Valerians, Polemoniums, Violas and many other border flowers, supplemented by such annuals as Alonsoas, Dimorphotheca aurantiaca and others, made a wonderfully beautiful effect, enhanced greatly by the surroundings of trees and shrubs and the absence of walls.—S. Arnott.

Roses that Vary in Colour.—The extreme variations in colour of some Roses have more than once given rise to the impression that the vendor has sent a wrongly-named plant. In the newer Hybrid Tea Rose Sunburst we not unnaturally find some difference of opinion as to its sterling qualities. A well-coloured flower is really a revelation in golden orange and cadmium yellows; but so often we get a quantity of flowers almost devoid of this delightful colour, and then it is by no means so great an acquisition, and has often been decried from that cause. We have another notorious example in Mrs. Aaron Ward. About an equal number of the blossoms come a clear Indian yellow and the rest almost a creamy white, while some range from creamy white, flushed with salmon rose, up to various shades of the more striking Indian yellow. William Allen Richardson has much the same undesirable peculiarity. But it does not seem possible to altogether account for these variations. Position, soil, also whether under glass or in the open and whether sunny or dull weather predominates, are frequently put forward as causes. Other varieties that change greatly are Prince de Bulgarie, Marie van Houtte, Edu Meyer, Duke of York, Hugo Roller, Souvenir de Stella Gray, Rainbow, Theresa and Mme. Lambard. My object in this note is to help to clear away some thoughts of dishonest trading that have more than once been expressed to me by growers.—A. P.

New Roses Grown Under Glass.—Messrs. Alex. Dickson and Sons of Newtownards inform us that all the new Roses shown by them at the National Rose Society's London Show on July 1, and described in our issue for July 12, were grown in the open, and not under glass as stated in our report. The mistake was due to the fact that there were two classes for seedling Roses—one for those grown in the open and the other for those grown under glass—and it not being made clear in which class the various Roses were included.

Campanula G. F. Wilson.—I have seen Campanula G. F. Wilson in many places, but never in such plenty as in the beautiful gardens of Captain Hope, R.N., at St. Mary's Isle, Kirkcudbright, where it is cultivated most extensively in the borders and rockery. There are many large clumps of great beauty, these covering themselves so freely with the dark blue flowers that hardly a leaf is to be seen. The clumps in the front of the borders, in particular, are of large size, and all are the produce of one plant which was in the gardens when Mr. James Jeffrey, the gardener, took charge a good many years ago. The variety is the green-leaved one.—S. ARNOTT.

Scent in Flowers.—In reply to Mrs. King's query on page 334, issue July 5, concerning my allusion to the American craze for size and colour, I had in my mind when writing some very large and showy Peas (miscalled "Sweet") that came from an American source, which I saw for the first time in a friend's garden some years ago; but when I tip-toed up to smell them, I discovered, to my dreadful disappointment, that they had no scent, and though so gay, would never make a *nose gay!* I had also in my mind the large and showy American Apples and other fruit (so often seen in fruiterers' shops) which we find so sadly lacking in flavour. As for the American love of everything large, that charge did not originate with me.—ANNE AMATEUR.

Pruning Rose La France.—No doubt some cultivators of this lovely Rose will think it is quite unseasonable to talk about pruning Roses, but I think it is quite seasonable, and a subject on which readers may give their experience. I find the best results follow summer pruning, or, rather, thinning out of the old wood at this time, and thus allow the younger and stronger shoots to mature before the winter comes. Ordinary cutting back to two, three, or five buds in March has not, as far as my experience goes, resulted in the best crop of flowers being grown. Really unripe wood may be cut back, but if the summer pruning is well done, very little will be necessary in spring. General thinning out of shoots now and a little shortening back of unripe tips of shoots in March have given the best results as regards flowering, and in a few years the plants have attained to a large size, bearing dozens of blooms. Perhaps some other cultivators will give their views.—G. G.

FORTHCOMING EVENTS.

July 29.—Royal Horticultural Society's Meeting and Gladiolus Show. Masters Memorial Lecture at 3 p.m. by Professor R. H. Biffen, M.A., on "Some Factors in the Prevention of Disease in Plants."

July 30.—Midland Carnation and Picotee Show at Birmingham (two days). Flower Shows at Chesterfield, Whitchurch and Bishop's Stortford.

July 31.—County Clare Summer Show. Flower Shows at St. Ives (Hunts) and Northallerton.

August 2.—Société Française d'Horticulture de Londres Meeting.

CULTURAL NOTES ON NEW OR RARE PLANTS.

Saxifraga bursiculata.—This is probably one of the most valuable of hybrid Saxifrages raised during recent years. It was raised from a cross between S. burseriana major (the true plant) and S. apiculata, and, while embodying not a little of the vigour and freedom of growth of the latter plant and its clustering trusses of flowers, embraces all the purity of colour and earliness to bloom of that first named. It is, from every point of view, a hybrid alpine to which the term "first class" might well be applied. It is of free growth, though doubtless a year or two will elapse before it becomes either plentiful or cheap. Meantime, it will satisfy those who consider the best of everything quite good enough. By reason of its vigour it grows freely in gritty, well-drained loam. Its earliness to flower—February-March—fits it for the alpine-house.

Fritillaria imperialis chitralensis is a plant so distinct and dwarf-growing by comparison with others of the "Imperial" race that at sight it might be regarded as outside its scope. Botanists, however, have declared to the contrary, and as the plant is an early-flowering one of the bulbous order, and one that, to ensure complete success, should be planted in late summer or early autumn, note should be made of it now. It is a foot or so high, having golden yellow flowers of bell-like outline. It is a refined and pretty plant, well suited to very sandy soils and a warm situation. Flowers March-April.

Oxalis adenophylla.—Whether this pretty Chilian species will prove a little less hardy than the varieties of O. enneaphylla, time alone will prove. Meanwhile, it is worthy of every care and the studious avoidance of risks. In the warmest positions of the rock garden it may be safe enough, and in the drier parts of the moraine may be worth experimenting with by those who have enough for such purposes and the courage to use them. Culturally, it appears to require nothing different to the better-known plant. The glaucous, much-divided leaves form a tuft, which constitutes a pretty setting to the pinky red flowers, which appear in April and May. In the alpine-house it is one of the choicest of early flowers.

Anemone sylvestris grandiflora.—On the principle that a good variety of any plant takes up no more room than an inferior one, and sometimes not quite so much, it is suggested that all interested in the Snowdrop Windflower should secure the variety above named. Some of those sent out as the typical kind are of too weedy a nature, both in habit and flower. Occasionally one may get the grandiflora form when ordering the other, and where this is so, it should be taken care of. Of quite easy culture in light or medium well-drained loam, its nodding Snowdrop-like buds have a very pretty appearance before the fully-opened flowers appear in May. For good distinctive varieties of such things, the best method of increase is by division.

Dianthus Pulhamii.—For the larger rock garden in June, this fine single-flowered, deeply-fringed Pink is particularly good. The plant grows 1 foot high and has blush pink, crimson-based flowers of 1½ inches across, which, backed by a neat tuft of glaucous leaves, make a great show. Like all its tribe, it is of quite easy culture in gritty loam and old mortar. Pipings in July are the best method of increase, though seedlings might also be raised. E. H. J.

THE GREENHOUSE.

BEAUTIFUL PLANTS FOR HOUSE DECORATION.

(SCHIZANTHUSES.)

As decorative subjects during the spring and early summer months Schizanthuses are difficult to beat, as with ordinary cultivation in a cool greenhouse a succession of bloom can be had from March till the middle or end of June by sowing at different dates in the autumn and early spring. Though autumn-sown plants give the best results, both for size and floriferousness, February sowings are not to be despised, as really excellent plants are to be obtained in 4½-inch and 6-inch pots, the chief essential in each instance being a very steady growth in a house with plenty of light and air at all times. This is especially desirable when the plants are coming into flower, for if given shade and a trifle too much heat at this time, the flower-stems become attenuated and are apt to fall about in a very ungainly manner. As decorative plants for the dwelling-house, winter garden, or conservatory, there is no annual that will give a better return for the trouble taken with them, and as the varieties are so distinct in habit and colour, they seem to adapt themselves to any and every decorative scheme.

In my early days of gardening I can only remember the old pinnatus type being grown to any extent, and as far as my memory serves me, they were of much more straggling habit than the strains we get now; but having a very large conservatory to furnish, they impressed me very much, as the plants were grown five or six in a 12-inch pot and attained a height of about six feet. Even now, where large plants are wanted for the conservatory, a good strain of pinnatus and pinnatus rosea are about the best. It is true that we have strains of large-flowered varieties which vary greatly in colour from white through the various shades of mauve and pink to a dull red or magenta; but none of them produce the same beautiful gauzy effect as do the first-mentioned varieties, and some of the strains, to be seen from a decorative point of view, are not worth perpetuating.

The plant shown on page 372 is of the type mentioned. It was pinched about twice in the early spring and potted finally into a 12-inch pot, and when photographed it was probably 6 feet 6 inches in height, 2 feet 6 inches to 3 feet in diameter, and was one of several such plants which were used for furnishing the winter garden here. The larger-flowering hybrids, as they are called, I find do not make such large plants, 8½-inch pots being large enough for them; but these also are very useful for house and conservatory decoration, especially if the colours are chosen with care.

The wisetonensis type is quite distinct, both in the habit of plant and colour of bloom, and where smaller plants are required of compact form these are excellent, the yellow markings in many of the plants making them especially desirable foils to the mauves of some of the other types. A bright rose pink form of this type sometimes met with should be developed, and if it could be had true, I am sure it would command a ready sale. Amateurs and others whose greenhouse accommodation is limited would be well advised to grow only the wisetonensis varieties, as a good many plants can be grown in a small space.

The retusus type is also quite distinct from the others. The orange or yellow blotch in the centre

of the bloom makes it quite striking in colour, the main portion of the bloom varying in different varieties from pure white to almost a carmine, and for grouping purposes, either at exhibitions or in the conservatory, they are eminently suitable. Also as cut flowers these varieties stand well, and are much admired for table decoration. Unfortunately, these latter are not quite as easy of cultivation as are most of the others; but with fairly careful watering during the winter they should present no serious difficulties to the ordinary gardener.

Cultural Hints.—To be really successful with all or any of the varieties, a sowing should be made in September or October, preferably in small pots, four or five seeds in a pot, thinning the seedlings to one in a pot when large enough to handle. Keep them during the winter on a shelf in a quite cool house, potting on as the pots become full of roots until the desired size of pot is reached. Where a really light and airy span-roofed house can be requisitioned for growing them, pinching is not necessary, unless it is to retard the flowering period, and they will make quite shapely plants without it; but when grown with other plants it is sometimes advisable to pinch them once or twice to make them a little more bushy.

In a close, stuffy atmosphere, or if too much heat is given, the growth very quickly becomes attenuated and the keeping qualities of the blooms are much impaired. When the flowering pots are full of roots, they will take liquid manure quite freely; but too much artificial manure is not advisable. At no time during their growth will they stand drought at the roots, so, in addition to plenty of light and air, careful watering is the one other detail absolutely essential to success. THOMAS STEVENSON.

Addlestone, Surrey.

CASSIA CORYMBOSA.

THIS lovely shrub is in full flower during the month of July when treated as a cool greenhouse subject, a little earlier when some heat is given, and during the latter half of July and the first part of August when grown in a sheltered corner outside. Half-ripened shoots root readily if inserted in a sandy compost in heat, and harder wood will form roots if placed in a cool frame. Plants may also be raised from seeds sown in April. They make splendid specimens when grown in 10-inch pots, and are most useful to amateurs who possess unheated or only slightly-heated glass structures. In the Southern Counties the plants will succeed against a south wall, and require very little protection in the winter-time. Fibrous loam two parts, peat one part, with leaf-soil and sand one part, form a suitable compost both for plants in pots and borders. The colour of the flowers is a rich buttercup yellow, and they are borne in clusters. B.

THE FRUIT GARDEN.

THE EARLY PLANTING OF STRAWBERRIES.

THE daily gathering and consuming of bounteous dishes of luscious Strawberries during the past few weeks lead us to wonder how it is that this fruit receives such scant attention from the average amateur. The professional gardener has of necessity to grow it well, and keep up a succession over as long a period as possible; but in the majority of comparatively small gardens, *i.e.*, those from a quarter of an acre to an acre in extent, and where much of the work is done by the owner, the Strawberry-bed is too often one of the most neglected features. We have wondered, too, why it is that market-growers of this fruit pin their faith solely to one variety, usually Royal Sovereign. The result of this is that for about a fortnight, especially during a good season like the present, the market is glutted with fruit, after which very little is obtainable, and that at a greatly enhanced price. The late Strawberries always make better prices than midseason ones, and often better than the earliest; hence it would appear to be a good investment for anyone who would take up their cultivation on a comprehensive scale.

This brings us to the heading of this article, viz., the value of early planting. The bed from which we have been enjoying fruit for at least four weeks, and which promises to give us a good supply for nearly another three, was planted at the end of July last year, and therein lies its success. Had planting been postponed until well into September, as is too often the case, fruit would have been, to use an aphorism, conspicuous by its absence. The plot had been previously heavily manured, deeply trenched, and cropped with Potatoes Midlothian Early, which were lifted in the green state for immediate use. Then the ground was forked over, all lumps broken up well, and subsequently allowed to settle for a week or so before the Strawberries were planted. These were put in rows about eighteen inches apart and the plants a foot asunder in the row, the idea being to remove every other plant and row after the fruit is all gathered this year. The plants were well watered until thoroughly established, so that they had every opportunity of making good crowns last autumn. It is this point that needs attention if a crop of fruit is to be obtained the year following planting. Care must also be exercised so that the crowns are not buried too deeply, and the roots should be spread out well in the soil, which needs to be made firm around them. The point of the crowns whence the roots spring should be just level with the surface of the soil after the operation of planting is completed.

We have already indicated that this bed has given us fruits for four weeks, and promises to do so for at least three more. The secret of this is that the plot was divided into three equal portions, and these were planted respectively with Royal Sovereign, The Bedford, and Laxton's Latest. The first named was the first to ripen, and a right royal crop did it yield. Before it had finished, The Bedford was giving us its earliest fruits and, if anything, in greater abundance than the first named. At the time of writing we are still gathering from the plants, and Laxton's Latest has just ripened its first fruits. Royal Sovereign is too well known to need description. The Bedford is an excellent variety, with rather rounded fruits and white flesh. It is much sweeter than Royal Sovereign and a good dessert Strawberry. Laxton's Latest produces enormous fruits, which, in spite of their size, are solid and of good brisk Pineapple flavour. They are dull crimson in colour, but the flesh when broken is bright scarlet crimson and very luscious. There are, of course, many other good Strawberries, but for the average garden these three would suffice and keep up a succession over a long period. Plants of them are obtainable

A BEAUTIFUL SPECIMEN PLANT OF SCHIZANTHUS PINNATUS, OVER SIX FEET IN HEIGHT.

from any of the fruit nurserymen now advertising in our pages, and no time should be lost in preparing a bed and getting the young plants established.

SEASONABLE NOTES ON FRUIT.

Strawberry-Beds.—Here is an excellent rule to apply to the Strawberry-bed: Clean it thoroughly immediately the crop is harvested. It is too common for this task to be deferred until late in the summer, and some cultivators even neglect it until the autumn. Any delay results in loss. The instant the fruit is finished the nets should be withdrawn, every weed pulled or cut out, all runners not wanted for propagation removed, all leaves that show the slightest indications of disease picked off, and the bed left clean and tidy. One thus gives light and fresh air the chance to find their way to the crowns of the old plants as well as to the runners rooting in small pots, squares of turf, or the soil between the rows. The benefit is immediate as far as the runners are concerned, and is postponed as far as the crowns are concerned, but it is there, nevertheless.

Layering and Planting.—In connection with the formation of new plantations of Strawberries, two important tasks present themselves to the grower, and both are of considerable urgency. By fixing down the plantlets or runners we secure fresh stock for extensions, and it is impossible to start too soon. The present is well on the late side; but if stock is short, go ahead, and finely-rooted plants will be at command for planting soon after the middle of August. Take the first or second runner on the strig and remove all beyond. Attach securely to the soil in small pots or to the soil of the alleys, see that it never becomes dry, and progress will be quickly apparent. The important task of planting ought to be in full swing. Bear in mind that the life of a Strawberry-bed is a short one—it rarely exceeds three years, and is often shorter — and determine that it shall be a profitable one. To that end do not spare really first-class cultivation of the soil, and see that the top is beautifully friable as a result of excellent mechanical culture.

Budding.—The majority of amateurs restrict their experiments in this interesting process to the Rose garden, but they should also have a try with fruit trees. All kinds respond perfectly, and budded trees are invariably the equals, and oftentimes the superiors, of those that are grafted. The essential points to be observed are identical with those applicable to Roses, and need not, therefore, be repeated in this column. It is certain that the amateur who has successfully budded his own fruits will be a proud man.

Watering and Feeding.—Although it is customary to restrict the watering of fruit to the trees growing on walls, it pays to extend the operation to the trees in the open quarters of the garden during periods of drought. When these come, spare no efforts to thoroughly soak the soil to a depth of 3 feet, and rest perfectly assured that the results will amply justify the time and attention that have had to be devoted to the task. As a rule, two soakings will suffice, but a third must not be withheld if it is deemed necessary. It pays, too, to supplement the clear water with liquid manure in the majority of instances, and especially so with the trees on walls. Whatever may be done in this direction must follow the water and not precede it, since there is always an element of danger in the application of liquid manure to dry soil, and this may be taken as applicable throughout all departments of the garden

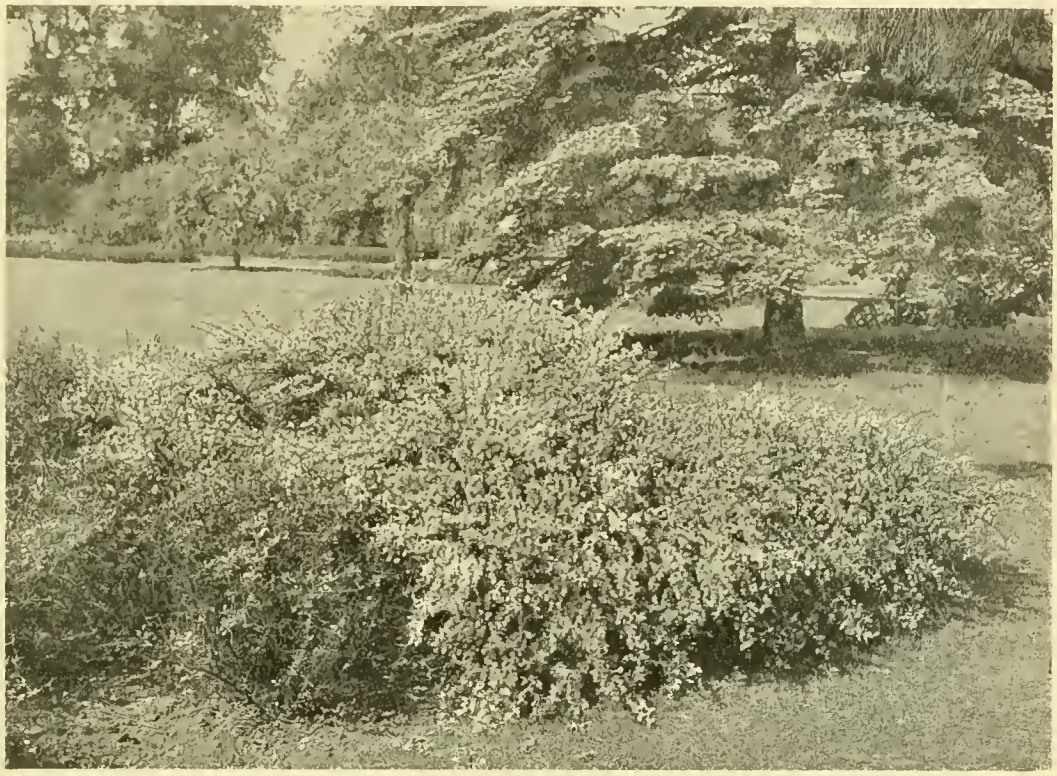
Insect Pests.—The importance of maintaining a sharp watch for insect attacks cannot possibly be over-estimated. Each tree ought to be subjected to a close scrutiny at least once a week, and preferably more frequently, because the earlier an infestation is observed the easier will eradication prove to be. Most of these pests multiply with wonderful rapidity, and neglect of inspection for two or three weeks may result in a tree or trees becoming absolutely smothered with an enemy which will suck out the life juices and thus prejudice the crop of this year as well as that of the future. Whenever insects are found the shoots ought to be well syringed with some insecticide, using a syringe with a spraying nozzle, and preferably one that has a bend or elbow at the end. This enables the operator to force the liquid well on to the under sides of the leaves, a position usually selected by pests for their attacks. Often the foliage is badly curled and it is no easy task to reach the insects, hence more than ordinary care is necessary if a complete eradication of the pests is to be effected.

TREES AND SHRUBS.

THE MOONLIGHT BROOM.

(CYTISUS SCOPARIUS SULPHUREUS.)

OF the many Brooms in cultivation, none is more worthy of a place in English gardens than the Moonlight Broom, and one fails completely to understand how it is that it is seldom seen and is comparatively little known, save to the few who are aware of its great beauty. For planting in open woodland or on banks of light soil it has few equals, the sulphur yellow flowers being produced in such profusion during May and June that they appear to illuminate the surrounding landscape. Any place where the common Broom or Gorse thrives will suit the requirements of the Moonlight Broom. It is not a tall-growing plant of leggy habit, such, alas! as many Brooms are, but it is of a more or less drooping nature, flowering from the uppermost branches to the ground, as shown in the accompanying illustration. The Moonlight Broom is one of the many varieties of the common Broom, Cytisus scoparius. It is as hardy as the Gorse, and so exceedingly beautiful that no garden can be complete without it.



A LARGE BED OF THE MOONLIGHT BROOM, CYTISUS SCOPARIUS SULPHUREUS, A BEAUTIFUL SHRUB FOR POOR SOIL.

SHRUBS FOR DRY SOILS.

THE ROCK ROSES.

THE Cistuses or Rock Roses are excellent plants for clothing dry, sunny banks, for they are usually of compact growth and cover somewhat unfavourable positions with greenery for nine months of the year, whereas during the other three months the foliage is in some cases almost hidden by flowers, especially during the early part of each day. The doubtful

hardiness of a number of the species may be urged against them as a reason why their culture should not be general, but as they are so easily propagated, both by seeds and cuttings, this need not be accepted as a serious argument, for if a few young plants of the more tender kinds are reared each autumn in anticipation of a severe winter, they take up little room if stored in a cold frame, and come in to fill the vacancies caused by deaths from frost. Fortunately, young plants grow rapidly when planted out; therefore they soon become large enough to furnish gaps. There is one point in their culture which needs consideration, that being the provision of permanent positions when they are first planted out, for if planted in nursery quarters and afterwards transferred elsewhere a great many will die, or be seriously injured, however carefully the work is accomplished. Therefore if the position is not ready for the plants when they require planting, place them in larger pots until they can be put in their permanent position. When plants are becoming crowded, a number should be cut out and destroyed rather than try to transplant them. Cuttings of many kinds taken during summer and inserted in sandy soil in a cold frame root quite readily, while seeds of other kinds, collected when ripe and stored in a cool room until February, germinate in a few days if sown in pots of sandy soil in a little heat.

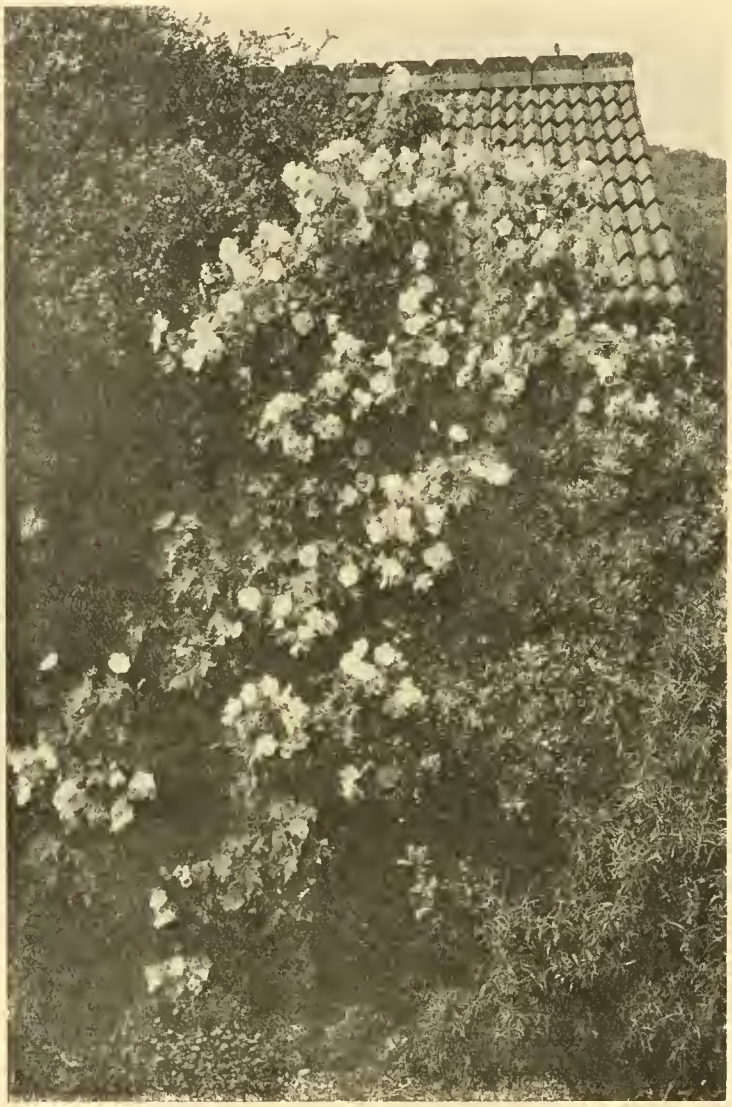
Any ordinary garden soil is suitable for Cistuses, even that of a light, gravelly character, providing it is dug deeply previous to planting and the plants are kept watered until established. In fact, rich soil is to be avoided, for it encourages rank growth, which is more liable to injury in winter than that of a sturdier character. Practically no other pruning is required than the removal of the flower-heads as soon as flowering is over, except a few which may be required for seeds. Where a large group cannot be formed, it is usually possible to find room for a few plants; if nowhere else, then on the rockery or wall, for they are excellent for rockery planting. It is, however, when seen as a large mass that their beauty is most apparent.

Between 1825 and 1830 the botanist Robert Sweet prepared a work on the Cistineæ, and in that book full descriptions of most of the Cistuses grown at the present time are to be found, in addition to descriptions of other showy kinds which appear to have been lost to cultivation. Of the numerous species and hybrids, the following are specially worthy of note:

Cistus albidus.—This is a rather tender species from South-West Europe, characterised by greyish, lance-shaped leaves and bright rose-coloured flowers.

C. corbariensis is considered to be a hybrid between C. populifolius and C. salvifolius, and it is one of the hardiest sorts. Growing about two feet high, it forms a compact bush bearing ovate or cordate leaves and white flowers. The latter are about one and a-half inches across, and from one to five flowers appear together from the points of the branches.

C. cyprius.—This is a native of Cyprus and resembles C. ladaniferus in foliage and growth, but there is a difference in the arrangement of the flowers. It forms erect branches 3 feet to 4 feet high, bearing rather narrow, lance-shaped leaves, which are dark green above and silvery beneath. The flowers are from 3 inches to 3½ inches across, white, with a rich crimson blotch at the base of each petal, several flowers being borne together in each inflorescence. Branches, leaves and flower-stems are rather glutinous.



A LARGE AND WELL-FLOWERED BUSH OF THE VINE-LEAVED ABUTILON IN A SOMERSET GARDEN.

C. ladaniferus, a native of South-West Europe, differs from the last named by its flowers appearing singly instead of several together. In other respects they are much alike.

C. laurifolius, the hardiest of all the Cistuses, is found in the same region as the last named. It grows upwards of six feet high, is of rather loose habit if not pruned a little when young, and is easily recognised by its ovate leaves, which are 3 inches or more long, up to 1¼ inches wide, and dark green above and silvery beneath. The white flowers are between 2 inches and 3 inches across and are borne with considerable freedom.

C. Loretii is one of the sturdiest and most beautiful of all. Forming a bush at least 4 feet high and 4 feet through, it is well clothed with rich dark green leaves and bears terminal heads of large white flowers, each petal having a rich crimson blotch at the base. It is fairly hardy and is of hybrid origin. C. ladaniferus is said to be one of its parents.

C. monspeliensis is another hardy species from the Mediterranean region. Forming a bush 1½ feet to 2 feet high and 2 feet to 3 feet across, it represents a perfect globe of white flowers during early summer.

C. recognitus is a hybrid between C. laurifolius and C. monspeliensis. It is hardy and of vigorous growth.

Of the coloured kinds C. villosus is one of the hardiest. It has greyish leaves and rosy purple flowers. Several varieties of this species, such as creticus, rotundifolius and undulatus, are known, all of which have rose or rosy purple flowers. C. tauricus is another species with rose-coloured flowers, while perhaps the darkest coloured of all is C. purpureus. In this case the flowers have dark blotches at the bases of the petals. As a rule the species with rose or purple flowers are less hardy than the white-flowered kinds; moreover, they are somewhat more difficult to raise from cuttings; therefore care should be taken to save a few seeds each autumn. D.

THE VINE-LEAVED ABUTILON.

Of choice flowering shrubs, the Vine-leaved Abutilon, A. vitifolium, is one of the most interesting. A native of Chili, it is not hardy in very cold districts, but in many parts of the Southern Counties it can be successfully grown and flowered, providing it is afforded shelter from cold winds. In the Western and South-Western Counties it flourishes quite in the open, and the accompanying illustration, from a photograph kindly sent us by Colonel H. Moore, Higher Woodcombe, Minehead, Somerset, serves to show how freely it grows and flowers there. This shrub is growing between a fine bush of Pittosporum and a tall plant of Ceanothus azureus. The flowers of this Abutilon are pale lavender blue in colour, and the leaves resemble in shape those of the Vine; hence its specific name. It needs warm, well-drained soil, and, as already indicated, protection from cold winds in all except the most favoured districts.

THE FLOWER GARDEN.

DAFFODIL NOTES.

Lists.—Ever since the season began we have had them—"Oversea List," "Preliminary List," "Foreign and Colonial List," "Surplus List," "Abridged List" and so on. Many of us have purchased and our pockets have had no time to refill, when, lo and behold! *the* lists begin to arrive. I read in the papers the other day of an American millionaire who lamented that he could not get even with his income. All, however, that he seemed to be doing was to charter such inexpensive things as special trains, and then do a little journey of two or three thousand miles in a few days under the scheduled time of the fastest express. Should this meet his eye, might I suggest his becoming a Daffodil enthusiast. Judging from experience, it might help matters very considerably. I do not think I have ever met anyone who has been able to buy *all* that they wanted. "I must wait until Crœsus drops to nine pounds," or "When Challenger is five pounds I intend to buy a bulb." New Daffodils soon find the cupboard bare. Next week I intend to devote the whole of my notes to the question of purchasing for shows and show matters generally. August is the last month in which we can do this, for if the bulbs are not in the ground before the end of the month, one's chances of success are jeopardised. I am glad to think that would-be exhibitors will this year have as a help what they have never had before—the "Royal Horticultural Society's Daffodil Year Book" (to be obtained from the Royal Horticultural Society's Offices, Vincent Square, S.W., for the sum of half-a-crown). In this publication, among other things, will be found a detailed list of all the prize-winning flowers shown in London and at Birmingham in 1913. I remember from my pantomime days the refrain of a certain topical song which seems to meet the case here:

"What could you wish for more, my boys?
What could you wish for more?"

The best practical advice that I can give is, "Buy this Year Book, and order it at once." I hope it will be published very early in August. Then, having got it, "Study the lists carefully."

The Merodon.—I hear complaints from various quarters of the presence of this unwelcome visitor. That hot summer of 1911 appears to have "done the mischief." Ever since then we have had the merodons in considerable numbers. Mr. Stocks of Doncaster has been "on to them" again this year, and I fancy before long he is going to give us his new experiences in print. Meanwhile I would suggest soaking the bulbs in water for twenty-four hours if there are any quantity of them that are supposed to be affected.

Fanny Currey.—I have frequently asked residents in the South of Ireland if they knew Miss Currey, and two out of three invariably said, "Do you mean Fanny Currey?" This usage of the Christian name among men denotes a good fellow or a popular chap. Miss Currey is one of the best, and accordingly, now my meaning is clear, I make no apology for heading this paragraph as I have done. We were all exceedingly sorry to hear of her illness, and her enforced absence from all our spring shows made a gap in our ranks; but we hoped she would soon recover. I am sorry to say her recovery is but slow, and much to my regret I now learn that she is compelled to entirely give up her business. I remember Miss Currey once saying to me, "I don't think I have made many mistakes in the stocks I have bought." I do not suppose she has, for I always look upon her as a woman with great critical taste and business acumen. She has got some splendid things at The Warren Gardens, Lismore, and her interesting sale offers will well repay a perusal. I should like both amateurs and traders to rally round and buy up her remaining bulbs. There is something in her collection to suit everyone, only remember "first come, first served." I always associate the name of Fanny Currey with those delicate-looking, refined, pure white trumpets White Knight, Lady of the Snows, Atalanta, Avalanche and Mrs. Robert Sydenham. But her taste was catholic, and among her other purchases were Challenger, Michael, Crœsus, Firetail, Warrior, and more recently still Crosfield's lovely scarlet-eyed Tara Ranee. I have said enough. It only remains for me to assure her of our deep sympathy with her in her enforced retirement.

Seeds.—The seed crop has not been a very large one. Both Mr. Engleheart and Mr. Walter Ware report large pods with but little in them. My own experience coincides with theirs. The latter ended up one of his letters to me something like this: "However, I expect there will be quite as many as I shall want." The truth is, it is a fairly easy matter to obtain seed, and as the fascination of seedling-raising is very great, I hope to see more and more people take it up. The choice of parents is so wide and the potentiality of the Narcissus family is so great that all its possibilities will not be exhausted for many a long day. There is here a mine of quiet enjoyment capable of finding a pleasant occupation for any number of willing workers. Again may I say, "Get the Year Book."

JOSEPH JACOB.

ROCK AND WATER GARDEN.

A DAINTY BELLFLOWER.

(CAMPANULA PUSILLA MISS WILLMOTT.)

ON many occasions we have drawn attention to the merits of this charming Campanula—a dwarf variety with flowers of the softest silvery blue shade. It is one of the most beautiful of dwarf Campanulas, and this year it has attracted more attention than usual at the summer flower shows, where it has been freely planted in the exhibits of alpine gardens. It is a profuse bloomer, producing masses of its dainty bells, being admirably adapted for growing in the crevices of old walls and between rocks and stones. One of the most effective ways of growing it is in the paved garden, where it will thrive in the chinks between the paving-stones. We have in mind a paved Lavender walk with this Campanula freely used. The study in pleasing tones of blue and grey is one not readily forgotten.

In the cultivation of Campanulas it is well to remember that all of them, more especially the alpines, love limestone. It is, for instance, on the grassy downs over chalk hills that the common Hairbell, Campanula rotundifolia, grows so freely and flowers in wild profusion.

CAMPANULA PUSILLA MISS WILLMOTT, ONE OF THE MOST POPULAR VARIETIES FOR THE ROCK GARDEN.

GENTIANA VERNA IN GRASS.

GENTIANA VERNA in the majority of cases is a difficult subject in the rock garden when planted in loose, open soil. The tufts will, as a rule, commence increasing satisfactorily, but they soon find their limit. Continued wet will often cause black patches in large tufts; then come ants and other vermin to work mischief beneath the protecting cover, earthworms pull about the rootless new growths, and in a short time a proud tuft will look unsightly or perish altogether. G. verna is only truly enchanting when growing in masses, forming large colonies among the grass with hundreds of expanded blossoms on them; but how is this to be effected in the garden when every fresh effort to establish it satisfactorily ends in the same failure?

I had almost given up its culture as a bad job; but how can we do without this most beautiful gem of early spring? No rock garden would be complete without it. After racking my brains for a successful method of growing the plant, I hit upon a plan which I thought worth trying. "Back to Nature," I said, and as in summer on our excessively dry soil a good close lawnis, without spending a great deal of labour over it, not to be obtained, I resolved to beautify my shabby grass plot—for the springtime at least, when it is still fairly green—by trying to establish G. verna thereon. It grows and flourishes to perfection on meadows and along the roadside outside my garden; why should I not get it to grow on my lawn? Instead of challenging fresh disappointments by trying it over and over again in the rock garden, I consequently started, three years ago, to sow seeds all over the grass in the autumn, and repeated the process every autumn following. This year I had the triumph of a first result in twenty-eight nice flowering tufts, and on a close search I discovered, to my intense joy, that the whole of the grass was studded with young seedlings, so that I feel justified in presuming that I shall shortly beat Nature outside my garden by a veritable carpet in blue on my own grounds. G. verna requires a fibrous body to root in and a clothed surface to push its young growths into, both of which can only suitably be given to it among a fairly loose grass sward.

On a close, velvety lawn, of course, success would scarcely follow. One should therefore keep a grass plot in a somewhat starved condition for the purpose. It is a mistake to suppose that G. verna requires a rather moist or even a wet position. The soil here is excessively dry, and in summer sometimes so utterly parched that he might be considered—by anyone not having seen it thrive and luxuriate in such positions—a bold man who attempted to prepare a similar plot for its culture in his rock garden. True, the plant also occurs in moist and even in wet places, but never there to such perfection nor in anything like such numbers.

By the annual sowings the stock is always being replenished. The same takes place in Nature. No doubt many tufts perish there annually, and yet invariably, in every spring, meadows and roadsides are replete with their hundreds and thousands of the blue stars of G. verna.

Planegg, Bavaria. E. HEINRICH.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

So far the season has not been an ideal one for vegetables, especially in cool districts and where the soil is of a cold, clayey nature. Even in medium heavy soils I learn that seeds of Carrots, Onions, Beet and Peas failed to germinate. The plants from later sowings are healthy and very promising, but much later than usual.

Celery.—The maincrop plants in light soils are now growing freely. Those in clayey ground are just beginning to produce new central leaves; but, fortunately, these new leaves and stalks appear to be very strong. I have seen plants grown in a cold, clayey soil make very little progress in cool summers, and when the time came to use them the sticks were very small, but quite solid. However, the cultivator wants a fair bulk in addition to good quality, and where plants in heavy soils are not making satisfactory progress, the cultivator should pass some well-decayed leaf-soil through a 1-inch mesh sieve, mix a small quantity of rotted manure and road scrapings with it, and top-dress the Celery, putting the mixture on in a layer about one inch deep. New roots will soon permeate the compost, and then the top growth will be much freer. When the roots are numerous, judicious feeding will help matters considerably.

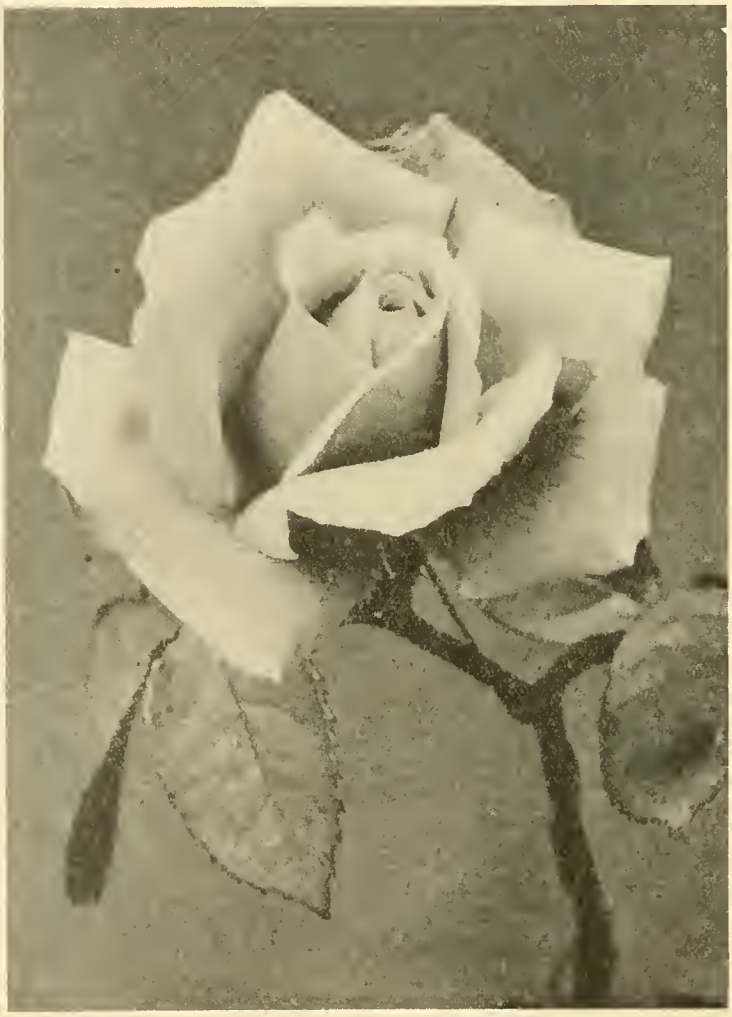
Dwarf or French Beans.—A late sowing of these should be made in one of the warmest borders in the garden. Drop the seeds 9 inches apart in shallow drills 18 inches asunder; single rows are better than double ones. If the soil is very dry, pour water in the open drills before sowing the seeds and covering them; then germination will be rapid. By adopting this plan I have had some of the best crops of the season, the pods being straight and exceptionally tender.

Open-air Tomatoes.—The soil around the roots must be maintained in an even state as regards moisture, otherwise many fine fruits may be lost through splitting; when split, decay soon sets in. No feeding should be done except when the soil is moist. In order to get all the fruits ripened which are now setting on the plants, cut off the tops beyond the last-formed truss of fruits. When swelling, feed the plants regularly, and all the fruit will mature, be solid and heavy in regard to size.

Beet and Carrots.—The first named is a very tender root, and when the workman is engaged in hoeing between the rows he should be very careful to avoid stabbing the crowns with his hoe, as when bruised in any way the root bleeds considerably, and then the colour is pale instead of being deep and rich when boiled. Carrots should be eased up in the soil when lifted for use; if forcibly pulled they are bruised, and the marks show pale in colour when the Carrots are cooked and placed on the table. Both kinds of vegetables grow best when the surface soil is kept loose by frequent hoeing and free from weeds, also when the plants are exposed to all winds that blow.

Seakale and Rhubarb.—Flower-stems are more numerous on these plants in some seasons than in others. They are not plentiful this year, but the cultivator should cut off every stem he can find, but not too low down. As long as he removes the portion bearing flowers, the object aimed at will be gained.

Asparagus.—The rule is generally observed that when Peas are plentiful the cutting of Asparagus ceases. It is never advisable to continue the cutting of Asparagus for too long a time, however fine the produce may be; but when cutting does stop, the beds are often neglected and weeds grow apace. The best policy is to keep the beds clean all the year round. AVON.



THE NEW ROSE MRS. F. W. VANDERBILT, AWARDED A GOLD MEDAL AT THE NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW AT GLOUCESTER.

GARDENING FOR BEGINNERS.

HOW TO INCREASE THE SIBERIAN FLAG (IRIS SIBIRICA).

EVERYONE should make an effort to grow this plant, for there are few, if any, more beautiful yet easily-grown members of the Iris family. While Iris sibirica will grow in most soils and positions, those to avoid are dry and shaded spots overhung with trees. The greatest success may be looked for in a rich, moist soil and one where plenty of sunshine reaches the plants. Though few readers may be able to find it in their gardens, perhaps the happiest of all spots for this Iris is by the side of a pond, stream, or lake, and we refer readers to the illustrated notes which appeared in last week's issue on this subject. In association with water the Siberian Flag makes a glorious display during the second half of May and in early June. But there are other ways of attaining success with this Iris. It may find a place in the mixed border, the pride of hundreds of town and suburban gardens. Should the soil be rather poor, or the season a dry one, mulch the plants with some old rotten manure, and water liberally during dry periods.

Propagation.—The usual method of increase is to lift and divide the clumps or tufts during July soon after flowering, unless it is desirable to save the seeds, in which case propagation must be deferred until the seeds are ripe. Great care is necessary when dividing the clumps not to break the roots, or, at any rate, to do as little damage to them as possible. A spade is sometimes used to chop a clump such as that shown in Fig. 1 in pieces; this is drastic treatment, from which the plants will not recover for a couple of years. The right way to divide clumps of the Siberian Iris is shown in Fig. 2. A couple of hand-forks are placed back to back in the centre of the clump and pressed outwards. This will divide the clump in two; these are again divided with the forks in the same way till the pieces are considered a suitable size to plant. It naturally follows that the larger the pieces for replanting, the quicker they will produce a good display of flowers. Fifteen inches apart is a suitable distance to plant the divided pieces, but it may vary from 1 foot to 1½ feet at the discretion of the cultivator. Water several times a week after planting till established. A mulching of flaky leaf-mould will assist in keeping the ground moist, and damping over the leaves after a hot, sunny day will be beneficial.

2.—THE CORRECT METHOD OF DIVISION IS BY THE AID OF HAND FORKS.

Seeds also form a ready means of propagation, and should be sown as soon as ripe. It, however, takes about three years to flower this Iris from seeds; consequently, except with the idea of raising new varieties, propagation by division of the tufts is preferred.

The Siberian Flag grows 2 feet to 3 feet high, forming in time large clumps or tufts of tall, slender growths rather suggestive of a vigorous grass. The flower-spikes, which push up during May, bear a succession of showy lilac blue flowers, which are prettily veined. In addition to the type there are several distinct and attractive varieties. Perhaps the best of these are orientalis, with larger, deeper-coloured flowers; orientalis Snow Queen, a large ivory white variety of exquisite beauty; alba, a useful white variety of the type; Baxteri, blue and white; Distinction, violet and white; George Wallace, light blue, flaked with white; and superba, a tall variety with violet blue flowers.

1.—A CLUMP OF THE SIBERIAN FLAG NOW READY FOR DIVISION.

HOW TO PROPAGATE HYDRANGEAS.

THE Hydrangea is not a difficult plant to grow when the cuttings are well rooted, but rooting them is sometimes a task not easily accomplished. For greenhouses and conservatories the dwarf plants, bearing one truss of flowers, are extremely suitable. To obtain such the cultivator should put in cuttings of fairly well-ripened wood at once, and keep them growing to one stem. Each cutting should be about six inches long and possess at least two fully-developed leaves. The leaves from the lowest joint must be cut off, also the stem immediately below that joint; then the cutting will be duly prepared for insertion. Put one cutting in a small, deep pot in a loamy, gritty compost, making the soil very firm around it and settling the soil by watering it through a fine-rosed watering-can. The best position for the cuttings to root in is a cold frame with lightly-shaded glass. Keep the soil in a medium state of moisture. See to the efficient drainage of each pot. AVON.

SPINACH BEET.

To the amateur with but a limited garden accommodation and the desire to grow a few vegetables, I know of nothing more remunerative than a crop of Spinach Beet, which will yield regular pickings over a lengthened period. From seed sown at the end of April I have been picking for some weeks, and am likely to continue until the spring. Of course, as the season advances, the production of new leaves will be slower. Where there is a space of ground available, a crop of this Spinach Beet may now be sown, and it will then come into bearing early in the autumn, or even before summer has really left us, and continue till the spring. The ground should be deeply dug, and must be in good condition. If necessary, some manure may be incorporated when digging, but if it is in good tilth no fresh manure will be needed. The seed should be sown in drills from 1 foot to 15 inches apart, and when large enough thin out the seedlings in the rows to within 3 inches or 4 inches of each other. Unlike the common Beetroot, this variety devotes its energies to the production of leaves, which may, when large enough, be picked off and cooked exactly like the common Spinach. The plants must not be picked too bare at any time, and they will then continue to rapidly develop new leaves. H. P.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Watering.—Naturally, freshly-planted trees and shrubs are the most likely to suffer from drought, and wherever possible, in addition to watering at the roots, they ought to be syringed overhead as often as possible in the evening. Continual working of the soil will do much to conserve the moisture in the shrubberies; but where shrubs and trees have been planted a long time, the soil will probably have become very hard to a great depth; hence there will not be the amount of reserve moisture as in freshly-dug or trenched ground.

Mulching.—This will do much to minimise the effects of drought, but do not put it on a hard, dry surface. Break the surface soil and give a good watering, put the mulch on and again water. Such treatment will probably save the lives of many trees and shrubs which are now hanging in the balance.

The Rock and Water Garden.

Many of the plants, having gone out of flower, will need trimming in somewhat, and all flower-stems and seed-pods should be removed, these latter if left on proving a great tax on the energies of the plants at this season.

Lily Ponds must be kept quite free of the various weeds which are apt to infest them, as these often grow to such an extent that they quite smother the plants which one wishes to see do well. Small ponds are easily kept clean by the use of the drag or rake, but larger ponds present more difficulties, and an old flat-bottomed boat or punt may have to be requisitioned from which to rake out the weeds.

The Flower Garden.

Border Carnations.—These should soon be making a good show, and if they are not already bursting their flower-buds, a good syringing overhead may be given occasionally. This will keep down thrips, which are often troublesome during a dry season; also a good soaking of manure-water just as the blooms are opening will increase the quality considerably.

Edging Plants used in summer bedding may require pinching to preserve a good outline to the beds, and Pyrethrums, Coleus, Fuchsias and Iresines should be regularly gone over, keeping them pinched back far enough from the edge of the bed to allow the machine to run along without damaging it.

Plants Under Glass.

Cleaning.—If the syringing will not keep down insect pests, then sponging or spraying must be resorted to, and paraffin emulsion and XL All are both excellent insecticides when used with care.

Palms and Selaginellas must also be kept well supplied with water, and, what is very important, they must be kept well shaded, as, once they turn yellow or get burnt by the sun, it will take a long time to restore them to their natural condition again. Clay's Fertilizer is a good manure for either of these subjects.

Cinerarias, Primulas and Calceolarias that may have been raised about the time recommended in the calendar and subsequently pricked off into pans or boxes should soon be ready for potting off into 3-inch pots. Primulas require a little more warmth in the early stages of growth than the other two subjects, but the soil to be used and treatment generally is on similar lines. After potting, shading in each instance is necessary, but when nicely rooted in the pots both Calceolarias and Cinerarias may have the lights partially removed on fine, dry nights. This will produce a stockiness in growth not obtained in any other way.

The Kitchen Garden.

Spring Cabbage.—Towards the end of the week a sowing of Cabbage should be made, to be followed fourteen days later by another sowing to provide the main batch. If the soil is dry, the drills should be watered before sowing. This will facilitate germination, and is much better than having to water the young seedlings as soon as they are through the soil.

Endive.—Take the earliest opportunity of planting out a good batch of this salad for autumn and winter use, and if the beds are planted about five feet to six feet wide, lights may be placed over them as desired. Needless to add, the plants will want well looking after as regards water if they are not planted during a showery time.

Fruits Under Glass.

Early Vines.—Vines from which all the fruit has been cut and again intended for early forcing next season should, as far as possible, be allowed to rest. Though the roots must on no account get unduly dry, too much moisture is apt to keep the Vines growing too long. For this reason also all syringing overhead should be stopped, though an eye must be kept on the foliage to see that insect pests do not get a footing; if so, an insecticide must be used to check them.

Peaches also must be treated in much the same way, but here any neglect of water at the root will be followed by serious results. During excessively hot weather I think it is desirable to apply a little shading to the glass, as Peaches and Nectarines, especially the early varieties, are apt to get over-ripe, and this I believe to be one of the causes of bud dropping in the early spring.

Hardy Fruit.

Strawberries.—Continue layering the later varieties of Strawberries till sufficient has been done to cover all possible requirements. Givon's Late Prolific on our heavy soil is the best cropper we have. It does not give all its fruit at one time, but covers a particularly long season. Early layers may be taken off as they become sufficiently well rooted, and if stood in a semi-shady position for a few days there will be no tendency to flag.

Old Plants that have served their purpose should be cleared off the ground, or, if there are no crops near by, all the rubbish may be burnt and the ashes spread over the surface again. Plants that are being grown on for another year should also be trimmed and the rubbish cleared away; but if the weather is dry, it is not advisable to take the straw off for a time, or the plants may suffer, and it is a good plan to give them a thorough watering. This will revive them somewhat after carrying a heavy crop. THOMAS STEVENSON.

(Head-gardener to E. Mocatta, Esq.)

Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Stock Lobelias.—The best way to raise a stock of Lobelia is to pot up a certain number of plants of each variety at planting-out-time. These stock plants should not be allowed to flower, and to prevent this the tops of the plants should be cut over two or three times during the growing season.

Chrysanthemums.—Attention should be given to tying as growth proceeds. Some stimulant may now be given to the plants, and the hoe should be kept going among them.

Herbaceous Plants.—Attention must still be given to the tying of Asters and other autumn subjects, care being always taken to avoid stiffness in carrying out the operation. All decayed flower-stems should be cut away as the various subjects go out of bloom. This is a good time for relabelling, as it is easy just now to verify the identity of any variety of which one may have been in doubt. This reminds me that in the calendar some months ago I was bewailing the disappearance of the Acme Label Rest. I now find that I was in error, and that this excellent device is still obtainable in three sizes from any leading Northern nurseryman.

Sweet Peas.—From now onwards is the period when feeding is required. This, however, is often overdone, proving a prolific source of "streak." "Little and often" is a safe rule. Those who possess soot or old fowl-manure require nothing else. For the rest the market is plentifully supplied, as witness the advertisements in THE GARDEN from time to time. Keep all spent blooms scrupulously picked off twice a week.

The Rose Garden.

Disbudding.—Those who have been catering for late blooms by planting young stock or by growing in rather shaded positions must practise disbudding if they would have blooms of high excellence. The first blooms are generally the finest, but one must have regard to the time when the blooms are wanted. This specially applies to exhibition blooms wanted for a particular date. Of course, a bloom can always be retarded for a week or more by means of shading.

Budding.—This work is rightly mostly relegated to the nursery experts in these days of specialising. Still, many private growers, especially amateurs, like to try their hand at the work, and there is no reason why they should not. Stocks and buds being available, all that is wanted is a good eye and deft fingers. T budding is the most popular system. Care should be taken not to damage the cambium on the stock, either when lifting the bark or inserting the bud. The more quickly the operation is performed the better, as the cambium is very delicate and exposure to the air soon injures it.

Plants Under Glass.

Layering Malmaison Carnations.—Although now put somewhat in the shade by the Perpetuals, the handsome blooms of the Malmaisons still find many admirers. It is now fully time that layering was proceeded with, and a cold frame partly filled with soil is the best place for the work. Turn a few old plants out of their pots and plunge them in a reclining position. The work of layering can then be proceeded with, using some fibrous, sandy loam for working in about the layers. Give a good watering when the operation is completed and shade lightly during bright sunshine. Keep the frame rather close till roots are emitted.

Cinerarias.—These must be potted on as necessity requires, using a rich, light soil. Unless the frames are facing north, the pots should be plunged in coal-ashes or other cool, porous material. Shade from bright sunshine, and if the leaf-mining maggot appears, spray occasionally with Quassia extract.

Primulas.—The remarks on Cinerarias apply generally to such Primulas as sinensis, obconica and malacoides, except that Primulas enjoy a rather finer medium than the Cinerarias. It should be borne in mind that some persons cannot operate with P. obconica barehanded with impunity.

Propagating Edging Plants.—A fresh batch of such edging plants as Panicum variegatum, Tradescantias and the trailing Coleus should now be rooted to keep up a fresh supply during the autumn and winter months.

Fruits Under Glass.

Shading Black Grapes.—It is now a generally accepted truth that black Grapes are frequently more or less injured by being exposed to the full blaze of the sun, and careful cultivators who have had such an experience afford the crop a slight shading.

The Hardy Fruit Garden.

Peaches.—Earwigs often prove troublesome at this season. If lengths of Beanstalks are adjusted among the shoots, the enemy will take shelter in these during the day. Go over the traps in the morning with a bottle, partially filled with water, in one hand. With the other insert one end of the Beanstalk in the mouth of the bottle and blow smartly into the other end of the hollow stalk. This will dislodge the enemy and drive him into a watery grave.

Morello Cherries.—After seeing to it that all the requisite wood is laid in and the remainder cut out, the trees should be netted.

The Vegetable Garden.

Leeks.—If the hoe is run lightly in between the rows, it will partly earth-up the earlier planting if the operation was carried out as advised in the calendar at the time. Planting may still be done to obtain Leeks for spring use on quarters which have been occupied by early crops.

Vegetable Marrows.—Continue to thin out and regulate the shoots, and pollinate the female blooms as they appear. The fruits should be cut at an early stage, else they deteriorate in quality and rob the succession fruits.

Peas have so far done splendidly with us. If drought sets in, however, watering must be the order of the day. Senator is still greatly prized here. CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

OBITUARY.

ROBERT SYDENHAM.

IT is with the deepest regret that we have to record the death of Mr. Robert Sydenham, head of the firm of Robert Sydenham, Limited, Tenby Street, Birmingham, which occurred suddenly on Saturday morning last. Mr. Sydenham attended his office in the usual way and was taken ill about 11 a.m., and expired almost immediately. It was only on Thursday of last week that we had the pleasure of meeting him at the National Sweet Pea Show, and also at the dinner of the judges and committee held at the Hotel Windsor in the evening, when the last toast proposed was that of Mr. Sydenham. The news of his death will come as a great shock to horticulturists in all parts of the world, as there were few phases of gardening that he did not take an interest in.

Born at Salisbury in 1848, his career in the horticultural world has been a most remarkable one. Up to the year 1884 he was actively engaged in the wholesale jewellery business of Sydenham Brothers, and it was in that year he disposed of a few surplus bulbs from his garden among his friends, little thinking at the time that he was laying the foundations of a business which to-day is one of the foremost in the country, and which a year or two ago dealt with nearly thirty-nine thousand bulb and seed orders in one season. A year or two ago Mr. Sydenham decided to turn his business into a private company, and with his characteristic generosity allotted shares to his employés, his object being not to raise additional capital, but to give a direct interest in the business to those members of his staff who had been with him for many years. Up till the time of his death he, however, still retained full control as governing director. The active interest that Mr. Sydenham took in the Midland Daffodil Society is known the world over, and to his personal and generous support the success of that society is largely due. It was his custom for some years to entertain the judges and numerous friends at dinner at the Grand Hotel, Birmingham, on the evening of the first day of the Daffodil Show, and at these dinners he gathered together Daffodil experts from all parts of the United Kingdom, the Continent, and at times from New Zealand, Africa and other parts of the world.

Sweet Peas were a favourite flower of his, and he took a very active interest in the affairs of the National Sweet Pea Society, occupying the presidential chair last year. The portrait reproduced here portrays him in a characteristic attitude among the National Sweet Pea Society's trials at Sutton Green. His little book, "All About Sweet Peas," was a publication that he took very great pains to keep as up-to-date and useful as possible, and many lovers of this flower have found it of great interest and value. He took a very keen interest in the Horticultural Club, and, indeed, it would be impossible to name any phase of gardening that did not, at some time or other, receive support from him. It would be difficult to mention any man who enjoyed a wider circle of friends in the horticultural world. His genial personality made friends of all who came into contact with him, and his generosity was never appealed to in vain. As an indication of the friendship that existed between him and horticulturists generally, we may mention that he was usually referred to as "Uncle Robert." We numbered him among our personal friends, and, in common with many of our readers, mourn his loss. To his widow and family we tender our deepest sympathy in their sad bereavement. The funeral took place at Lodge Hill Cemetery, Birmingham, on Tuesday, the 22nd inst., amid many tokens of esteem, a large number of horticultural friends being present to pay a last tribute to a great and generous man.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Dendrobium Dearei McBean's Variety.—From Messrs. J. and A. McBean, Cooksbridge, Sussex. This was removed before a description could be secured.

AWARDS OF MERIT.

Odontioda Thwaitesii Purple Emperor.—The name is descriptive of one of the largest of these hybrids, though the colour will not appeal to all. From Mr. E. H. Davidson, Orchid Dene, Twyford.

THE LATE MR. ROBERT SYDENHAM.

Odontioda Cooksonii venustum.—A brilliant ruby crimson having a white-margined lip and slight yellow crest. From Sir George Holford.

Paphinia cristata.—The sepals and petals are 3 inches to 4 inches long, acute and heavily lined chocolate on a white ground. From Messrs. Charlesworth.

Carnation Firefly.—A gloriously brilliant scarlet of the largest size and nicely perfumed.

Carnation Bookham White.—Handsome creamy white flowers of fine form. Both from Mr. J. Douglas, Great Bookham, Surrey.

Delphinium Mrs. W. J. Sanderson.—A single-flowered variety of intense blue colour and pure white centre. The contrast is very fine. From Mr. J. Sanderson, Eastfield Hall, Warkworth.

All the foregoing were shown before the Royal Horticultural Society on the 15th inst., when the awards were made.

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

SLUGS AND CANTERBURY BELLS (*Colonel*).—Try watering the haunts of the slugs with a solution of potassium permanganate, 1oz. to one gallon of water. Trapping may be of advantage.

FUNGUS ON CAMPANULAS (*A. S. T.*). The fungus on Campanula stenocodon is called Coleosporium campanulæ. It is not liable to attack other plants than various species of Campanula, many of which are liable to be attacked, as are species of Adenophora. It is probably connected with a fungus which occurs on Pines early in the season, and passes from one to the other alternately. The only thing likely to be of much avail is to spray the plants with a rose red solution of potassium.

SWEET WILLIAMS AND EELWORM (*Medmenham*).—The Sweet Williams are badly attacked by the stem eelworm (Tylenchus devastatrix). When once the plant is attacked, nothing is likely to cure it, and the only thing to be done is to try to prevent the recurrence of the trouble in a succeeding year. We would recommend the immediate destruction of the affected plants by fire, so as to check the spread of the pest in the earth, to which it will go when the plant dies. The soil in the affected places should be treated with sulphate of potash in spring, or have a good dressing of kainit in autumn.

CALCEOLARIAS FAILING (*J. M.*).—We recommend you to avoid growing Calceolarias again in the soil in which these have been growing. A fungus which inhabits the soil gains entrance to the plants through the roots, and does much damage where these plants are grown repeatedly on the same soil. There are other plants which may be used to give yellow effects, such as Tagetes signata pumila, which are not subject to this disease, and can therefore be planted for a few years until the soil has become free from the fungus again.

WEED IN LILY OF THE VALLEY BED (*H. H.*).—The weed is the Dog's Mercury (Mercurialis perennis), and you will find it less difficult to eradicate than such as the Bindweeds or Goutweed. You will of necessity have to exercise vigilance and reduce the clumps of the Lilies to small size to ensure getting out all the roots of the weed. Having done this, you might still be troubled with seedlings, though from this cause alone there is no great occasion for worry. Any time from the latter half of September would be suitable for dealing with the Lilies.

CINERARIA MARITIMA AND POTENTILLAS (*N. E. L.*).—Cineraria maritima may be increased by cuttings of young shoots inserted in sandy soil in a close frame in spring, and by seeds sown in a warm greenhouse or frame in February or early March. Plants raised from seeds in February form useful specimens the first summer. The shrubby Potentillas do not require any regular pruning. As a rule, nothing is done to them until they become dense, then a little of the older wood is removed. They do not flower well until they are four or five years old. Spring-flowering Spiræas do not require regular pruning, as is necessary with those which bloom during summer and autumn. They may be left unpruned for several years, then be lightly thinned or cut back if outgrowing their positions.

MISCELLANEOUS.

ERADICATING THE STINKHORN FUNGUS (*Reader*).—We fear it is impossible to destroy the Stinkhorn fungus over a whole garden. We recommend you to thoroughly water the parts where it appears with a solution of 1lb. of copper sulphate to twenty-five gallons of water, but take care not to touch the plants.

JUDGING COTTAGE GARDENS (*A. S.*).—It is impossible accurately to judge cottage gardens and allotments, except by marks. Your best course will be to allow a maximum of twenty for order, neatness and system of cropping in combination; of twelve each for all flowers and all fruits; and of six each for every vegetable crop grown. You must be exceedingly careful not to point high in the first garden, or you will find trouble later.

COLD FRAME (*Watford*).—In a frame 6 feet by 4 feet you are not likely to grow many plants suitable for house decoration. A vast number of subjects may be grown in a cold frame during the summer months; indeed, they are better there than in a warmer structure; but a heated house is necessary for them in winter. This applies particularly to Cyclamen, concerning which you enquire, but tuberous Begonias may be grown in a cold frame providing the tubers are wintered in a frost-proof spot. Chrysanthemums may be grown out of doors and protected by the frame when the nights get cold till the blossoms expand, but for this purpose the frame would have to be of considerable depth; in fact, too deep for other plants to be grown successfully therein. As the season is so far advanced, there is nothing that we can recommend for present sowing likely to give satisfactory floral returns before winter. The Schizanthuses are just now very popular as decorative plants, and seeds of these may be sown about the end of August. The resultant plants may be potted into small pots and wintered in the frame, taking care that they are covered during severe frost.

NAMES OF FRUIT.—*Miss D'ombrain.*—Gooseberry, Lancer; Currant, White Dutch.

NAMES OF PLANTS.—*T. C. Ashdown.*—Shrub, Deutzia gracilis flore pleno. Rose, Rêve d'Or.—*Mrs. M. Maitland Gardner.*—Rose Paul's Early Blush.

—*R. E. S.*—1, Jean Soupert; 2, Mrs. W. J. Grant; 3, Mildred Grant; 4, Kaiserin Augusta Victoria; 5, Dean Hole; 7, Beauty of Waltham; 9, Marie van Houtte. The others had fallen.——*Mrs. W. L. Harvey.*—1, Louis van Houtte; 2, Helen Keller; 3, Lady Waterlow; 4, Baroness Rothschild; 5, George C. Waud; 6, Merveille de Lyon.——*M. R., Torquay.*—Medicago scutellata (snail-like); Medicago echinus (hairy fruit).——*S. H. B.*—Phacelia tanacetifolia.——*E. E. B.*—Anemone species, specimen dried up.——*E. H.*—1, Campanula rotundifolia; 2, Sedum spurium; 3, Armeria maritima variety, probably laucheana; 4, Sedum Telephium; 5, Bocconia cordata; 6, Phragmites communis variegatus; 7, Polygonum cuspidatum; 8, Fuchsia macrostemma variety; 9, Rudbeckia species, specimen too scrappy; 10, Achillea Ptarmica The Pearl; 11, Helenium autumnale pumilum; 12, Mertensia species, send when in flower; 13, Eryngium giganteum; 14, Chrysanthemum maximum; 15, Campanula persicifolia alba; 16, Chrysanthemum Parthenium fl.-pl.; 17, Spiræa Filipendula.——*C. Lemesle Adams.*—Astilbe species; specimen too small for identification.——*F. K.* 1, Sedum album; 2, Lysimachia vulgaris; 3, Astrantia major; 4, Sapina procumbens; 5, Inula orientalis; 6, Arrhenatherum bulbosum variety variegatum.——*H. G. G.*—Hieracium rubrum.——*John Burn.*—Habenaria bifolia.——*Miss McMustree.*—1, Sedum Lydium; 2, Saxifraga trifurcata; 3, S. geranioides; 4 and 5, S. Geum variety; 6, S. acanthifolia; 7, Centaurea dealbata; 8, Achillea Ptarmica; 9, Lysimachia punctata; 10, Malva moschata; 11, Sidalcea malvæflora; 12, Iris flowers, decayed; 13, Heuchera, garden hybrid; 14, Cephalaria alpina; 15, Artemisia paniculata; 16, A. spicata; 17, Calamintha grandiflora; 18, Origanum species, send in flower.——*Hortus.*—Tropæolum speciosum.——*E. S. H.*—Hæmanthus tigrinus.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

At the fortnightly meeting, held at Vincent Square on the 15th inst., there was a smaller show than usual, and visitors were by no means plentiful. Some very fine exhibits were, however, staged, and special mention must be made of the beautiful border Carnations from Mr. James Douglas and the pot fruit trees from Messrs. J. Veitch and Sons.

Floral Committee.

Present: H. B. May, Esq. (chairman), and Messrs. W. J. Bean, B. Crisp, J. Green, G. Reuthe, C. R. Fielder, J. W. Moorman, G. Gordon, J. Jennings, J. F. McLeod, J. Dixon, C. Dixon, A. Turner, C. E. Pearson, W. Cuthbertson, J. T. Bennett-Poe, E. H. Jenkins, W. P. Thomson, W. J. James, W. A. Bilney, E. A. Bowles, G. Paul and T. Stevenson.

Mr. James Box, Lindfield Nurseries, Hayward's Heath, arranged a gorgeous bank of the finest herbaceous plants, the group stretching from the entrance to the Orchid Annexe. It was perhaps one of the finest groups of these plants ever staged, and, being arranged on the floor, had a most telling effect. It is not easy to particularise when all is so good, though we may remark upon Pentstemons, Phloxes, Gladiolus princeps, Astilbes, Iris Kæmpferi, Panther Lilies and Water Lilies among the greater host of plants now in flower. The arrangement of the whole was good, the effect of quite an imposing character.

Messrs. Bunyard and Co., Maidstone, had a particularly good table group of herbaceous flowers, Phloxes of the best varieties, Romneya Coulteri, Heucheras, Chrysanthemum maximum in variety, the old scarlet Lychnis and other good plants. There were some fine Gaillardias in the group, the blue Scabiosa caucasica being very good in colour.

Mr. Howard H. Crane, Highgate, N., had a charming set of Violas and Violettas, the latter of quite fairy-like character and delightful in the extreme. Of the Violettas, Osyth (yellow), Lavinia (mauve), Purity, Sulphurea, Rock Lemon, Mollie (rich golden), Adeline (violet blue), Mauve Gem, Violetta and Vesta (both of which approximate to white) were shown. For massing in beds these are simply ideal.

The group of herbaceous plants from Messrs. T. S. Ware, Limited, Feltham, was replete with good and seasonable flowering subjects, the best of the Phloxes, Campanulas, Alstrœmerias, Gaillardias, Hollyhocks and other good plants being noted.

Messrs. F. Smith and Co., Woodbridge, had a well-arranged group of hardy flowers, white and blue Scabious being very fine. Excellent Phloxes were also shown, and a goodly mass of Lathyrus latifolius The Pearl. Chrysanthemum maximum The Speaker is perhaps the largest of this fine race of flowers, and was particularly well shown. Verbascums, Gaillardias and Alstrœmerias were alike good and well represented.

Colonel the Right Hon. Mark Lockwood, M.P., C.V.O., Romford, showed three fine fruiting specimens of Thladiantha dubia, the scarlet fruits being of the size of a hen's egg and most effective.

Messrs. G. and A. Clark, Limited, Dover, showed a capital collection of herbaceous cut flowers, making a fine central group of the pure white Carnation Downer's Pride. The variety has not the merit of great fragrance, but for purity and freedom would, we think, be hard to beat. It was the finest plant in a goodly group.

Messrs. H. B. May and Sons, Edmonton, displayed a miscellaneous group of greenhouse Ferns, such genera as Polypodium, Nephrolepis and Gymnogramme being, among others, well represented. Messrs. May also exhibited a splendid group of standard-grown Fuchsia Corallie, a brilliantly-flowered triphylla hybrid of much merit.

Messrs. G. Bolton and Son, Buntingford, Herts, staged a good table group of Roses, such as Melody, Lyon, Mrs. A. Mont (cream), Richmond, Mrs. Aaron Ward (very pretty in the bud state), Hugh Dickson (very fine), Rayon d'Or and Avoca (the last two being particularly fine). Mrs. A. Tate was also good.

Messrs. William Cutbush and Sons, Highgate, N., displayed a table group of miscellaneous greenhouse plants, Justicia carnea, Hydrangeas, Dracænas, Caladiums and Lilies all being well shown.

Messrs. Dobbie and Co., Edinburgh, had a very fine exhibit of new Sweet Peas, novelties chiefly for 1915-16, King White, Early Cream, Blue Picotee, New Margin and Ruby Palmer were among the more distinct, though many more, equally so, were only under numbers at present.

The Guildford Hardy Plant Nursery had a mixed group of hardy cut flowers, Eryngiums and Inulas being prominent.

Hobbies, Limited, Dereham, had a small yet choice group of Roses, Dream, Effective, Pink Pearl, Rayon d'Or and Lemon Queen (a nearly pure white flower of large size) being among the more important.

Mr. G. Reuthe, Keston, Kent, had a mixed group of alpines and shrubs, together with many choice Lilies, a large bush of Desfontainea spinosa, with bell-shaped flowers of scarlet and gold, claiming immediate attention. Veratrum nigrum and Romneya Coulteri were also good outstanding features.

Messrs. William Fells and Son, Hitchin, had a rockwork exhibit on tabling, Campanula Stansfieldii and Œnothera eximea being among the more prominent subjects.

Mr. G. W. Miller, Wisbech, showed a general collection of cut herbaceous plants, quite a number of seasonable flowers being included.

Mr. M. Prichard, Christchurch, set up a very fine group of cut herbaceous flowers, with plants of Spiræa palmata and the finer Astilbes. Iris Kæmpferi, Hemerocallis citrina Baronii and Sparaxis pulcherrima were also noteworthy in the group. Herbaceous Phloxes, too, were excellently displayed.

Messrs. Stuart Low and Co., Enfield, staged an excellent lot of Roses, arranging Rayon d'Or, Lyon, Sunburst, Lady Pirrie, Mrs. Alfred Tate, Pharisäer and Lady Hillingdon in huge stands, which were most effective. A small yet resplendent group of good things.

Messrs. Carter Page and Co., London Wall, had a most extensive collection of Violas arranged in pans. Quite a large representative gathering.

Messrs. Cannell and Sons, Swanley, showed Roses and Pelargoniums in great variety.

Mr. L. R. Russell, Richmond, had a fine lot of pans of Nertera depressa in fruit, fronting a select lot of hardy flowers.

Mr. J. Douglas, Great Bookham, had a superb lot of Carnations, Bookham White, Firefly (both of which received awards of merit), Jean Douglas (rich scarlet), Mrs. G. A. Reynolds (bright orange with buff), Elizabeth Shiffner, Linkman (fancy) and Agnes Sorrell (crimson maroon with fine perfume) being among the best in a particularly choice and well-grown collection.

Fruit.

Lady Wernher, Luton Hoo, Luton (gardener, Mr. A. W. Metcalfe), showed boxes of Strawberries in splendid condition. Givon's Late Prolific and Waterloo were the two varieties shown.

Messrs. James Veitch and Sons, Limited, Chelsea, received a gold medal for a splendid collection of fruit trees in pots, the collection comprising Apples, Plums, Peaches and Nectarines in the finest condition. Of Peaches, Peregrine, Early Alfred, Dymond, Rivers' Early York, Crimson Galande and Royal George; of Nectarines, Goldoni, Pineapple, Early Rivers and Lord Napier; and of Plums, Early Transparent Gage, Jefferson's, Kirke's, Denniston's Superb and Brandy Gage were the best, while of Apples, Lady Sudeley and James Grieve were good.

Orchids.

Few Orchids were exhibited, Messrs. Sander and Sons, St. Albans, showing a collection of Odontiodas, Vanda cærulea (a very excellent variety), Dendrobium Dearei and others.

Messrs. Charlesworth and Co., Hayward's Heath, had a small but choice lot of Orchids, such good things as Cycnoches chlorochilon, Lælio-Cattleya Ceres, Aoguloa Cliftonii, Odontoglossum Othello and O. Mandiæ.

A fine imported plant of Aerides odoratum, bearing six racemes of flowers, was shown by Mr. A. W. D. Oakes, Knockwood, Shortlands, Kent.

Messrs. Stuart Low and Co., Enfield, also contributed a small group.

SOUTHAMPTON SOCIETY'S SUMMER SHOW.

The summer show, held on July 15 and 16, which included the Southern Counties Carnation and Sweet Pea section, was a very beautiful one, notwithstanding the fact that a few classes were not very well filled. In many others, however, the competition was keen, good quality being a feature throughout. Mr. Ellwood's collections of vegetables, Mr. T. Hall's grand Madresfield Court Grapes, Messrs. Sutton and Son's superb exhibit of Sweet Peas, Mr. Dutton's Carnations, Messrs. W. H. Rogers and Son's old-world Rose garden, Messrs. Toogood and Son's Sweet Peas and vegetables, Messrs. B. Ladhams' alpine garden, and Messrs. Hillier and Son's herbaceous flowers, Carnations and Water Lilies were all outstanding features of the show. Mr. Fudge, the courteous secretary, had a plan of the tents, and all exhibits were neatly staged under his experienced supervision.

Carnations.

In Class 1, for twelve vases of selfs, fancies and yellow-ground Picotees, Mr. H. Mathias, Medstead, was first, staging Linkman, Leslie, Mrs. R. Percy Smith, Margaret Thurston, Maud Allen and a seedling in good condition. He secured nearly all the first prizes in Classes 2, 3, 6, 7, 8, 9 and 10 respectively for blooms shown in vases and on boards. Mr. J. J. Keen and Mr. H. M. Elford of Winton, Bournemouth, were also prominent prize-winners in these classes. The last named is a new exhibitor and an expert grower, and will, no doubt, make his mark in future in the show tents.

In the classes open to amateurs, Mr. J. A. Fort was the champion prize-winner. In many classes he did not have much competition, but his blooms were so good that first-prize cards were awarded.

In Class 30, for five vases of Tree or American Carnations, Mr. Usher, gardener to Sir Randolf Baker, Bart., was first, Scarlet Glow, White Wonder and R. F. Felton being very fine blooms.

In Class 31, Mr. Ellwood, gardener to W. H. Myers, Esq., was first for three distinct varieties of American Tree Carnations. Notable premier blooms were Viola in Class 9, shown by Mr. Keen; Mrs. G. Marshall in Class 8, and R. Houlgrave in Class 6.

Sweet Peas.

In Class 40, for four distinct varieties, Mr. White, Eastleigh, was first.

Mr. Usher was premier prize-winner in the class for six bunches in six varieties, the prizes being offered by Messrs. Sutton and Sons, Reading. Mr. Bealing, Bassett, and Mr. Clemson, Milford-on-Sea, were second and third respectively.

In the class for nine distinct varieties (prizes given by Messrs. Toogood and Sons, Southampton), a second prize only was awarded, the other exhibits being disqualified, as they were not staged according to schedule.

For the best six distinct varieties, Mr. F. Bealing was first. The same exhibitor was placed first for eight bunches, the prizes being provided by Messrs. Webb and Sons. He again was successful in Class 46, for nine distinct varieties, winning the chief prize offered by Mr. Robert Sydenham, Tenby Street, Birmingham.

The Sweet Peas in the competitive classes occupied tables all round one large tent.

Groups and Pot Plants.

For a group of miscellaneous plants arranged for effect, Mr. C. Greenaway, gardener to Mr. C. H. Ashley, Bassett, was first. He made good use of Francoa ramosa and well-coloured Crotons. Mr. T. Hall, gardener to Ellen Lady Swaythling, was a very close second. His plants were well grown and choice, but rather closely arranged.

Mr. Hall had the best single specimen stove or greenhouse flowering plant—a well grown and flowered Stephanotis. Mr. Greenaway had the best single specimen foliage plant. Mr. C. Hosey staged six giant and freely-flowered Zonal Pelargoniums, and was easily first. He had also the premier four Ferns, distinct, and six Gloxinias respectively; and Mr. Hall won with a grand lot of Caladiums, grown as one frequently saw them some twenty years ago.

Mr. Mattingley, gardener to Admiral Sir J. Hopkins, won in the class for nine vases of hardy border flowers, distinct, Mr. W. Palmer, Andover, being a close second.

Table Decorations.

These were very pretty, being low and lightly arranged. In one class Mrs. Bealing scored. Carnations or Picotees or both were to be used. In another class, Orchids only being excluded, Miss Minnie Snellgrove won. Sweet Peas were used, and the effect was charming. Epergnes, sprays and other floral arrangements were equally beautiful.

Fruit and Vegetables.

Mr. T. Hall won in Class 69 for four dishes of fruit, staging Madresfield Court Grapes, Sutton's Scarlet Melon, Lord Napier Nectarines and Dymond Peaches. The same exhibitor won in the class for two bunches of black Grapes, again staging superb Madresfield Court. Mr. Ellwood was second with fine, even clusters of Black Hambugh. Mr. Hall was again a winner in the class for one dish of Peaches. Mr. Usher had the best Melon.

In all the principal classes for collections of vegetables Mr. Ellwood won, staging grand produce in his well-known attractive style. The prizes were offered by Messrs. Toogood and Sons, Messrs. James Carter and Co., Messrs. Sutton and Sons and Messrs. Webb and Sons respectively. Mr. Ellwood also had the best dish of Tomatoes.

Non-competitive Exhibits.

Gold Medals.—A large gold medal to Messrs. Sutton and Sons for Sweet Peas; a gold medal to Messrs. W. H. Rogers and Son, Limited, for an old-world Rose garden; and a similar award to Messrs. B. Ladhams, Limited, for an alpine garden and herbaceous flowers.

Silver-gilt Medals to Messrs. Toogood and Sons for Sweet Peas and vegetables; Messrs. Hillier and Sons for herbaceous flowers, Carnations and Water Lilies; Mr. A. F. Dutton for Tree Carnations; and Mr. F. Longster for Sweet Peas.

Silver Medals to Mr. C. Fay for Carnations; and Mr. E. Wills for stove and greenhouse plants.

Awards of Merit to Messrs. Jarman and Co. for Roses and Carnations; and to Mr. F. Gullick for a lovely lot of Violas.

Mr. J. A. Medland had some charming vases of flowers firmly fixed in his patent holders, and also some wire Strawberry protectors.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Transplanting Bulbs in Grass.—Anyone desirous of transplanting or taking up spring-flowering bulbs in grass or under trees should not delay doing so, for although the tops are dormant and will remain so for a long time, the roots will soon commence to get active, and are then best left undisturbed.

Blackberries.—These provide a very useful crop during the early autumn, and the plants are greatly benefited by one or two good soakings of manure-water, especially during the time the fruits are setting. Green fly is sometimes troublesome, more particularly about the time the plants are in bloom, and if the insects are noticed the plants should be sprayed at once, or the fruit may be spoiled.

Lilium Brownii.—This is without doubt one of the most satisfactory of all garden Lilies. Recently a beautiful colony of this Lily, growing among peat-loving shrubs, was to be seen in the American Garden near the Palm House, Kew. It has been grown in the same bed for at least four years, and the fact that it continues to flourish and flower profusely is proof of its great value as a garden Lily.

Work Among Border Flowers.—To preserve the herbaceous border in a nice condition it should be gone over regularly, cutting down the plants that have bloomed, and thinning out and staking those that are coming into bloom, not forgetting to give those plants water and nourishment that most require it. The autumn-blooming plants are now making rapid growth, and such plants as Phloxes, Asters, Helianthus and Rudbeckias will be all the better for a little help in this direction.

The Iceland Poppy.—Few plants are more valuable for the garden or for use as cut flowers than the Iceland Poppy, Papaver nudicaule. The orange, yellow and white flowers blend well together, and are equally as effective when grouped in separate colours. Seeds sown now will produce plants to flower next spring, when they will be followed by the spring-sown ones. Poppy flowers will be found to last longer if the stalks are slightly burned at the tips before they are put into water.

A Useful Late-Flowering Broom.—The Mount Etna or Sicilian Broom, Genista ætnensis, is a valuable subject for the pleasure grounds and shrubbery borders, being one of the last members of the Broom family to flower. It is a particularly graceful shrub, 12 feet to 15 feet or more in height. Old specimens develop quite a thick, woody stem, with numerous main branches, from which hang the green, whip-like shoots, very freely dotted with small, yellow, Pea-like blossoms. Seeds ripen freely in this country, forming a ready means of propagation. They may be scattered thinly where it is desired to grow them. The seedlings can be raised in a frame and the plants grown for a couple of years in pots till large enough to safely establish in the woodland, pleasure grounds, or shrubbery borders. Single specimens are effective, but the Mount Etna Broom is seen at its best planted in informal groups of six to a dozen plants.

Rambler Rose Lady Godiva.—Although this sport from Dorothy Perkins was obtained by Messrs. Paul and Son five years ago, it is seldom that one finds it growing in gardens. Why this is so is difficult to understand, because it is unlike any other variety. The flowers are pale salmon pink, resembling closely in colour that charming Perpetual-flowering Carnation Mrs. H. Burnett. It is as vigorous and free-flowering as Dorothy Perkins, and deserves to be more widely known.

A Useful Dwarf Flowering Shrub.—It is difficult to understand why that charming little dwarf shrub Spiræa japonica Anthony Waterer is not more freely planted. For filling a large lawn bed or for grouping towards the front of the shrub border it is excellent, and has the merit of doing well in rather poor soil. If pruned hard back each winter or spring, as it should be, it only grows from 15 inches to 18 inches high, and in July and early August is covered with its large heads of deep rose red flowers.

Poplar Leaves Diseased.—At a recent meeting of the scientific committee of the Royal Horticultural Society, the Ven. Archdeacon Meredith sent leaves of a Poplar with large golden yellow areas upon them, occupying in some cases half the leaf surface, and due to Ascomyces aureus, a fungus nearly allied to the one producing leaf-curl in Peaches, &c. One or two of the leaves showed on their upper surfaces the silvery appearance characteristic of the attack of Stereum purpureum as seen in Plums.

Two Silver-Leaved Shrubs.—The genus Elæagnus comprises a number of ornamental shrubs, two of the best being E. argentea and E. macrophylla. The former is a native of North America, and is commonly known under the dainty name of Silver Berry. E. macrophylla, or Fon Gumi, native of Japan and Formosa, has beautiful silver grey foliage, and is one of the best shrubs for planting in isolated beds on lawns where tall subjects are not desirable. The bright silver foliage of these shrubs stands out in pleasing contrast to the sombre appearance of coniferous evergreens.

Bed of Pale Lilac Shrubs.—A very charming bed at Kew just now is situated in front of the large Temperate House, a beautiful pale lilac effect being created by the use of Ceanothus Ceres. The large panicles of cloud-like blossoms are very freely produced on plants not more than 2 feet high. Judging from their appearance, these are pruned back almost to the ground-level each winter or spring, the flowers being produced on wood made this year. Near by is a bed, not quite so well filled, of the beautiful azure blue flowered variety Gloire de Plantières, which has evidently been treated in a similar manner,

CORRESPONDENCE.

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

Zonal Pelargoniums Without Pots.—As I required a flower-pot many months ago of a particular size, I could only find one suitable in which a nice plant was then growing. However, I turned out the plant and simply placed it in a saucer, minus the pot. Occasionally water was poured into the saucer, but very often the ball of soil was quite dry and no water in the saucer. Finding, however, that the plant was thriving in the circumstances, I had it supplied with water as required, the latter being poured into the saucer. I am surprised to see how well this plant has grown and flowered in the circumstances. It was, when turned out, well established in a 6½-inch pot, and the ball of soil quickly absorbed the water from the saucer. Young roots stand out like bristles from the ball of soil. I refer to this plant as I firmly believe that we give too much water to Zonal Pelargoniums generally; hence so many yellow leaves.—SHAMROCK.

Lilium giganteum.—Upon reading the paragraph *re* Lilium giganteum in THE GARDEN of July 19, page 358, it occurred to me you might like to see the enclosed photograph, taken ten days ago, of L. giganteum, which has flowered here in my garden. The bulb was planted four years ago in a shady place; in fact, surrounded by shrubs, except to the north, as I find this Lily does far better in shade than in sun. There were nine spikes of bloom in all, bearing seventy-three blossoms between them. The tallest stem was 9 feet high with a head of thirteen blossoms; the next two, 8 feet 2 inches and 8 feet, with thirteen and eleven trumpets respectively. Then came one of 6 feet 9 inches, with the other five rather shorter and more bunched together. Lord Trevor, who is in the photograph, is about five feet eleven inches high. I have several more of these Lilies in the garden in sunny positions. None has more than one stem, and that not over 6 feet high.—ROSAMOND TREVOR, *Brynkinalt, Chirk.*

LILIUM GIGANTEUM IN LADY TREVOR'S GARDEN AT CHIRK.

Four Little-Known Roses.—There are four Roses not generally found in English catalogues which, I think, many would be glad to know. They are Angèle d'Arnix, a clear, warm pink of most distinct appearance, large size and upright growth. A good garden plant, and the bloom always opens well. Reine Mère d'Italie is certainly among the deepest of the yellow-hued Roses, and is very striking. Both the above are recent introductions of M. Bernaix, by whom they were kindly sent me. Marquise de Ganay is with me a tremendous bloomer, the flowers reminding one of Gustav Grunerwald, only of a better colour, being a pure light rose shade without any trace of magenta. What a splendid garden Rose is Leuchtfeuer! It is a most brilliant thing and ever-blooming; in size and fulness it is equal to many a Hybrid Tea, especially in the early part of the season.—ERNEST BRYSON, *Yewtree Cottage, St. Briavels, Glos.*

About Garden Roses.—I was interested in reading an article headed "About Garden Roses" in your issue of July 19, page 359, signed by Edward H. Woodall, wherein was mentioned that the climbing wichuraiana hybrids Gardenia and Alberic Barbier were both equally good. I planted both these Roses only last November in different parts of my garden. Although only its first season, Gardenia has borne a profusion of blooms, and Alberic Barbier has supplied me with cut buds for the drawing-room and adorned the new archway up which it is planted in a manner quite unexpected for so young a plant. Both of these Roses are very highly to be praised on account of their foliage and the entire absence of smother fly or mildew. But in my opinion Aviateur Blériot surpasses either of these. It is about the same size, has flowered at the same time, is a lovely shade of orange yellow, highly perfumed, a vigorous grower, and has lovely foliage.—HONOR T. PITTS, *The Rectory, Loughborough.*

Rose Mary Countess of Ilchester.—I see that your correspondent Mr. E. H. Woodall, page 359, July 19 issue, invites accounts of the behaviour of this Rose in English gardens. Soon after this variety was issued I put it on both dwarf and standard stocks. The latter form, as in the case of most Hybrid Teas with me, seems to suit it best. Now, while the other Roses are resting temporarily after their first blooming, Lady Ilchester is still to the fore, affording me flowers which, in the bud and half-developed stage, are very striking; but the flower opens too quickly to flat form, although even then the centre is well filled and the bloom of good lasting quality. It keeps its colour in sunshine and stands wet well. So far I have not found this Rose a very good autumnal variety. It is by no means the latest bloomer among the Hybrid Teas here. In growth, on dwarf stocks, the plants are inclined to be leggy; in other respects the growth is good. I find that this variety likes the knife no better than does J. B. Clark.—R. C. W. DIXON, *Southampton.*

Grouping Flowers for Colour.—Studies and experiments in this delightful aspect of gardening become more and more interesting and attractive. There is a fine old border plant, Salvia Sclaria, that seems to have gone out of use of late, but that is well worth restoring to favour. It throws up stems 4 feet high that bear large, loose, thyrse-shaped masses of bloom, each flowery top being 2 feet high and 15 inches wide. The upper lobes of the bloom are of a tender lilac colour, with a lighter lip and a warm white hanging pouch. The large mauve pink bracts combine with this to form a wonderful harmony of related colouring when seen close by, and a cloud of tender tinting when viewed from a little distance. Grouped with it is Salvia virgata, whose bloom is a strong purple that is made all the richer by the deep red-brown of the calyx. The two plants, in a group that covers several square yards, help each other in effect in a way one would hardly have thought possible. At the foot are pale pink Snapdragons and spreading masses of the quiet grey of Artemisia stelleriana; above, a little distance away, comes an arch of the pink bloom of Rose Euphrosyne.—G. JEKYLL.

A Late-Flowering Greenhouse Heath.—Comparatively few of the greenhouse Heaths flower at this season of the year, but of the limited number Erica cerinthoides is one. It is also one of the brightest-coloured members of the genus, and belongs to what is usually termed the hard-wooded Heaths, in contradistinction to such well-known kinds as E. hyemalis, E. gracilis, E. spenceriana and E. wilmoreana, which are known as soft-wooded kinds. The species under notice forms a rather upright-growing plant, whose flowers, borne a dozen or so together in a terminal head, are tubular in shape, each about an inch long, and of a bright crimson-scarlet colour. As with many other members of the genus, the exterior of the blossoms is clothed with hairs more or less sticky. From its bright and distinct appearance a group of this Heath forms a pleasing feature in the greenhouse during the latter part of the summer, while it also sometimes extends into early autumn. Another species somewhat in the same way and flowering at much the same time is E. verticillata, whose flowers are in whorls on the upper parts of the main shoots.—H. P.

A Huge Rhododendron.—The enormous Rhododendron in the gardens of the Marquis of Ailsa at Culzean Castle, Ayrshire, has often attracted the notice of visitors, who can hardly, however, realise its great size. The tree is the ordinary R. ponticum, is no less than 21 feet high, and is, according to the measurements taken in 1912, 266 feet in circumference. It is understood to be one of, if not the largest specimen in the kingdom, and is in perfect health and showing no signs of decrepitude.—S. A.

The Future of the North of England Horticultural Society.—Allow me as a private individual to intimate to the gardening fraternity in general, and Northern horticulturists in particular, the opportunities that exist at present for development. The cards have been dealt and the call for trumps has been given. Has it been noticed, and will the response be forthcoming? There are two grand openings lying right in front of the North of England Horticultural Society, and it would appear that too much caution may prevent an advance through these open doors. (1) Without going into details, which are being thoroughly overhauled by legal and other interested persons, there is undoubtedly a crying need for a Northern School of Horticulture. The general idea is a Government Garden Institute, with the North of England Horticultural Society co-operating, with the object of training horticulturists capable of developing the economic resources of the soil at home or in the Colonies. (2) There is another clear call—the establishment of a North of England Horticultural Society's Rock Garden. Such a Mecca for lovers of rock gardens would be popular and useful. To me one thing is certain. When at a general meeting, to be called shortly, the music is faced, the tune will be played, for it is preposterous to think that the many enthusiasts who have sacrificed, gladly and willingly, their time and money will allow this Northern movement to end in failure. It is not as if cash was not forthcoming. All that is required is a strong lead and similar enthusiasm such as was displayed over the new Royal Horticultural Society's Hall and the Royal Horticultural Society's Gardens. Notwithstanding deaths and withdrawals, the North of England Horticultural Society still increases its membership. A seedling cannot be forced without harm being done. Also all progress comes through and by suffering. It is disappointing, too, to note that three Northern societies outside Yorkshire have accepted from the North of England Horticultural Society, which has tried to be true to name, free judging, costly medals, or other practical support, and then given nothing or practically nothing in return.—J. Bernard Hall, *Rawdon, Leeds.*

FORTHCOMING EVENTS.

August 4.—Flower Shows at Bletchley, Atherstone, Epsom, Thornton Heath, Eye, Lichfield, Ashby-de-la-Zouch, Marlow, Sandway, Stourport (two days), Mansfield, Datchet and King's Lynn.

August 5.—Flower Shows at Leicester (two days), Navan and Aberdare. Scottish Horticultural Association's Meeting.

August 6.—Flower Shows at Cookhill and Clevedon.

August 7.—Flower Shows at Madresfield and Kenilworth. Perthshire Sweet Pea Show.

August 8.—Flower Show at Darwen (two days).

August 9.—National Carnation and Picotee Society's Show (Northern Section). Flower Show at Winshill.

ROCK AND WATER GARDEN.

ROCK GARDEN PLANTS FOR LATE SUMMER AND AUTUMN.

It is a common complaint that the rock garden is dull and uninteresting in late summer and autumn, due to the fact that the vast majority of the plants we call alpines bloom early in the year. The complaint is doubtless well founded; but now that we have so many plants available from almost all parts of the world, it is possible to render the rock garden bright with at least a certain amount of bloom almost all the year.

Apart from the flowers which bloom naturally at the later season, it is possible by some consideration to plant some of the alpines in such positions that they will retain their beauty long after their sisters have ceased to flower. Many of these plants will bloom as well in shade or semi-shade as in sun, and, by keeping this in view, a fortnight or more may often be gained in the prolongation of the flowering period. Another point which deserves consideration is that there are some alpines which, under favourable conditions, will flower for a second time in autumn, though, it may be, more sparsely than in spring.

To ensure the full beauty of the rock garden in late autumn, it is highly desirable to include a number of the autumn-flowering Crocuses and Colchicums, as these are simply invaluable. In suitable, sunny, sheltered places the autumn Crocuses and Meadow Saffrons look delightful. Crocuses speciosus, its variety Aitchisonii, pulchellus, iridiflorus, zonatus, asturicus, Salzmannii, longiflorus and nudiflorus are all comparatively cheap, and others will be found from the lists of the dealers for those who can afford more expensive plants. Of the Meadow Saffrons the best are the varieties of Colchicum speciosum, including the grand white one, the double varieties of C. autumnale, C. Bornmuelleri, C. giganteum and C. variegatum. Then the dainty Cyclamen neapolitanum will give its rose or white flowers in September. Leucojum autumnale, a charming thing, flowers from July until frost in warm, sandy soil. The pretty little Oxalis lobata is another late-blooming plant, which, with Saxifraga Fortunei, will bloom even as late as October in warm, sheltered places.

Of other plants than those of bulbous or semi-bulbous character we find the Tunicas really indispensable. T. Saxifraga (rose) is best known, but T. olympica (white) and the double T. Saxifraga flore pleno are fine. Then Silene Schafta is also most valuable, as it will bloom from July until frost.

A gem of the first water is Androsace lanuginosa, which, with its form oculata, will bloom all the summer through, and even until sharp frost intervenes. But for its foxy smell, Phuopsis or Crucianella stylosa would be more appreciated, but it blooms for months at a stretch. Some of the Helianthemums are grand flowers for our purpose, and the best are the double varieties of H. amabile. The red one, often known as Mrs. Earle, is hardly ever out of flower, and its yellow sport, Jubilee, and the one called Old Gold are equally floriferous.

Some consideration in planting in cool places will prolong the flowering of the dwarf Campanulas till the end of July in most seasons, and often later, and the writer will have some of these until well into August this season. The varieties of C. carpatica lend themselves well to this. Æthionemas, beautiful in themselves, give a few valuable late bloomers, and among them I find grandiflorum, coridifolium and cordatum perhaps the best.

Dianthuses, *e.g.*, varieties of plumarius, most of the Mule Pinks, and a few species, such as deltoides, neglectus and graniticus, are long flowerers. Hypericums give us a goodly variety, all with yellow flowers. H. reptans, H. Coris, H. fragile and H. verticillatum are among the best of the dwarfer species. Though rather tall and coarse, Alyssum sinuatum, about a foot high, gives masses of yellow in late summer and autumn, and is useful for rough rockwork. Jasione perennis, blue, a foot high; Globularia nana, also blue, 3 inches or 4 inches; Achillea tomentosa, yellow, 6 inches; and A. rupestris, a white trailer, may all be named.

Erodiums afford us a useful variety, and any of these may be chosen with confidence. Gypsophila prostrata is fine, and Polygonum vaccinifolium most valuable. Oxalis corniculata gives tiny golden stars; Corydalis lutea, though a little coarse, is good on a rough rockery. Antirrhinum asarinum will give blooms for some time, and Heucheras in suitable positions bloom well. Arenaria montana in the shadier, moister parts will afford some bloom; Geranium lancastriense and a few others will flower for a long stretch; and Origanums hybridum and Tournefortii and Astrantias minor and gracilis may be used.

The autumnal Heaths and the Menziesias are indispensable, and a full planting of these should be made, not forgetting Erica hybrida for still later bloom. With these and a few of the dwarfest annuals, such as Ionopsidium acaule and Sedum cæruleum, the rock garden may be made delightful in autumn, if not so full of colour as in the earlier months of the year.

Dumfries. S. Arnott.

STERILISING SEEDS WITH HYDROGEN PEROXIDE.

The current issue of the *Kew Bulletin* contains a most interesting article by Miss Ivy Massee on the sterilisation of seeds with a view to destroying spores of injurious fungi that might be present. A great many kinds of seeds have been experimented with, and we cannot do better than quote Miss Massee's summary: "The spores of fungi, also some kinds of bacteria, are as a rule killed by an hour's immersion in hydrogen peroxide; no spores experimented with germinated after similar treatment for two hours. In nearly every instance the germination of seeds immersed in hydrogen peroxide was retarded. Seeds immersed for four hours were on an average one to two days later in appearing above ground than untreated seeds of the same kind. Seeds treated for twenty-four hours were retarded from two to eight days, or in most instances were killed outright. The period of retardation is much less in seeds which germinate quickly than in the case of seeds whose germination is normally slow. After treated seeds have germinated growth is rapid, and in a short time the plants are equal in size and vigour to the plants from untreated seeds sown at the same time. In some cases the plants from treated seeds are distinctly larger than those from untreated seeds at the end of three weeks. For all practical purposes, soaking seed in hydrogen peroxide for three hours will kill all superficial fungus spores and the seed will not be injured. This method is to be recommended as a substitute for fumigation, which, as a rule, does not kill fungus spores, unless continued for such a time as to damage the seed."

TREES AND SHRUBS.

SHADE AND AIR IN THE GARDEN.

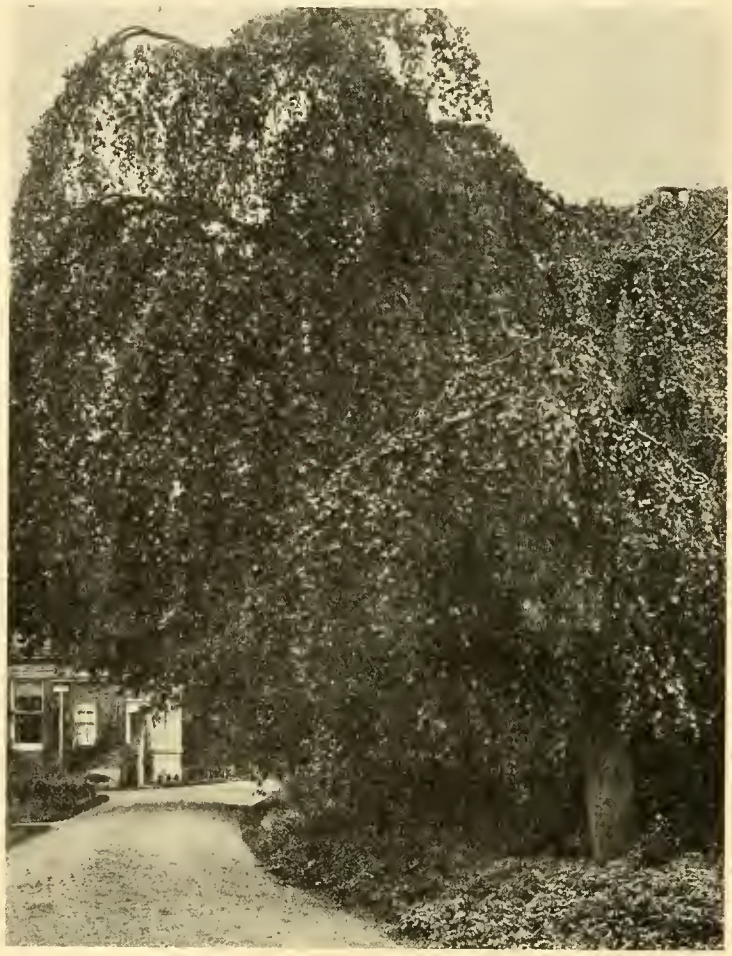
The Value of Weeping Trees.

SOME trees stand out prominently in the landscape by reason of their habit of growth, their distinct foliage and flowers, or possibly some other peculiarity. Among these the most distinct are, perhaps, those of weeping or pendulous growth. Very picturesque and charming effects can be made with them in large or small gardens, owing to the fact that they form a pleasing change from trees of normal growth. It is when planted as lawn specimens, with their graceful pendent branches just reaching to the grass, that the trees show off to the greatest advantage. Pendulous trees should stand out as specimens quite distinct from their neighbours. It is no use huddling them away in a shrubbery border with other trees and shrubs, as this at once destroys or, at any rate, partly robs them of their picturesque character. As a rule, trees of pendulous growth must be confined to the pleasure grounds and the immediate surroundings of the house. When planted in the park it is necessary to surround them with a fence as a protection against grazing cattle; this, it will be readily seen, detracts very much from their beauty.

Their Value for Shade.—One of the best and most valuable uses of a good weeping tree, particularly in a garden of moderate size, is as an arbour or retreat. While the pendulous branches hang down like a curtain and form an effective screen from the sun and surroundings to a large extent, the air beneath one of these weeping trees is never so close and oppressive as in the ordinary summer-house. These weeping trees readily respond to a little pruning and training with the idea of forming a shapely arbour.

Propagation is Important.—One of the most important items in the cultivation of weeping trees is their propagation. Grafting on the different types of the respective trees is the most satisfactory and only really feasible method. Seeds of some can be obtained, but the majority of the young plants would revert to the type. Layering and propagation by cuttings in some cases are possible, yet they are seldom, if ever, satisfactory, and in any case would take years to make a tree of any size. Much the quickest way to obtain specimen weeping trees is to graft them high up on stocks of the normal trees, 6 feet to 12 feet or even more in height.

Early Training.—The training of the leader of weeping trees in the early years of their growth is most important, always endeavouring to make them go upwards till they attain a good height. Too much stress cannot be laid upon this early training, for on it depends, to a very great extent, the future of the tree. Some weeping trees, when grafted on a high stock, make fairly regular and symmetrical growth, *e.g.*, the Elms and the Ash. On the other hand, some are most erratic in growth; take, as an example, the Weeping Mountain Ash, Pyrus Aucuparia. If this is not carefully staked and trained, the branches will be sprawling on the ground instead of hanging gracefully in streamers from an upright leader. We find it necessary to thin out the growths of the Weeping Holly and the Weeping Thorn fairly liberally about midsummer in alternate years, or a little may be done about this time each year, otherwise the growths soon become a tangled and unbalanced mass of twigs and branches.



A WEEPING BEECH OVERHANGING THE CARRIAGE DRIVE IN MR. W. A. BILNEY'S GARDEN AT WEYBRIDGE.

The Best Kinds.—The trees of drooping or pendent habit belong to widely different genera, and, as is only to be expected, differ considerably in height, habit, and other characteristics. One of, if not the tallest weeping tree in this country is at Elvaston Castle, the seat of the Earl of Harrington. The tree is 98 feet high, and one of the longest streamers hangs down to within 20 feet of the ground. An illustration of this famous tree appeared in The Garden for December 23, 1905, page 400. Among specimens covering a large area of ground, the Weeping Beech is one of the most noteworthy. Two of the strongest-growing and most favoured pendulous trees for large gardens are the Weeping Scotch Elm, Ulmus montana pendula (illustrated on next page), and the Pendulous Feathered Elm, Ulmus glabra pendula. Both form large, trees, the Weeping Scotch Elm in particular being in summer a luxurious mass of dark green leaves. There are several pendulous forms of the common Beech (illustrated). The best known is Fagus sylvatica pendula, which is often represented by large specimens covering a considerable area of ground. The trees exhibit great variation in the disposition of the branches. Some are fairly regular in outline, others throw out a stiff, vigorous branch on one side of the tree only, or perhaps at irregular intervals, giving the tree a rough, ragged outline. The leader of a young Weeping Beech will sometimes grow out almost or quite at right angles, and unless noticed in a young state, cannot be tied up straight, being too stiff. One of two alternatives may be taken, *e.g.*, take up a fresh lead, cutting off the end of the old leader, or allow the tree to grow in its own erratic way. Two distinct forms which originated on the Continent are bornyensis, which has an erect stem and pendulous branches, and remillyensis, a Weeping Beech with pendent branches shaped more or less like an umbrella. There is a very pretty weeping variety of the Copper Beech boasting the long name of Fagus sylvatica purpurea pendula. There are also several pendulous forms of the Ash. The best known is Fraxinus excelsior pendula var. Wentworthii, which forms a tall, narrow tree, the leader being quite upright, with small branches disposed regularly round the trunk. F. angustifolia pendula is an elegant tree of tall, columnar outline.

Two Weeping Aspens should find a place in large gardens—Populus tremula pendula and P. tremuloides pendula. Two of the most graceful weeping trees are Betula alba pendula and Youngii. The former is tall and slender in growth, and Youngii broad and spreading. One of the best-known weeping trees among the general public is Salix babylonica, the Weeping Willow, a tree unequalled for effective planting by the lakeside, stream and swamp. The species in this case is a weeping tree. The main branches are more or less upright, with graceful, pendulous, leafy twigs. There are weeping varieties of the common Crab, the Siberian Crab and the Mountain Ash. In the Prunus family there are weeping forms of the Almond and Japanese Apricot. The Gean, a lovely tree when covered with white flowers in spring and suitable for small gardens, is catalogued as Prunus Avium var. pendula. The Rose-bud Cherry, Prunus pendula, from Japan, is a charming weeper, with dainty pink blossoms borne on slender twigs in April. The best of all the pendulous Prunuses for large gardens is the Weeping St. Lucie Cherry, P. Mahaleb var. pendula, which forms a glorious sight in spring when covered with blossoms. Another small-growing tree for

STEPPING STONES AND POOL IN THE NATURAL GARDEN AT MOUNTON.

Hudson & Kearns, Ltd., Printers, London, S.E.

ANOTHER FORM OF WEEPING BEECH THAT MAKES A GOOD RETREAT ON A SUNNY DAY.

gardens of moderate size is the Weeping Hawthorn, a variety of Cratægus Oxyacantha.

Evergreen Kinds.—Among evergreens the most important tree with pendulous growths is the Weeping Holly, Ilex Aquifolium var. pendula. There are also two very useful and attractive variegated Hollies, argentea pendula, known as Perry's Weeping, and aurea pendula, Waterer's Gold Weeping. The conifer family provides us with a number of exceedingly attractive trees. A few of the best and most distinct are the Weeping Lawson's Cypress, Cupressus lawsoniana, C. pisifera var. filifera, C. nootkatensis var. pendula, Thuya occidentalis pendula, T. plicata pendula, Tsuga canadensis var. pendula, and the Weeping Douglas Fir, Pseudotsuga Douglasii. The foregoing may appear a rather lengthy list, but it by no means exhausts the number of pendulous trees grown in the collection of trees and shrubs at Kew. Six of the best weeping trees for a garden of moderate size are the pendulous forms of the Green Holly, Perry's Holly, Hawthorn, common Ash, Young's Birch and Copper Beech. To these should be added to complete a list of twelve for extensive pleasure grounds Scotch or Wych Elm, Beech, Lawson's Cypress, St. Lucie Cherry, Salix babylonica and Cupressus pisifera var. filifera. A. O.

THE FRUIT GARDEN.

THE LOGANBERRY AS A COMMERCIAL FRUIT.

THERE have been many new berry hybrids of the Bramble type introduced during the past fifteen years, all claiming some particular merit over others already in cultivation. Time and experience reveal the truth or otherwise of these claims. Among these are the Mahdi; the Hailshamberry, since proved to be an autumn Raspberry; the Lowberry, said to be excellent when grown under glass, but no good when grown out of doors—this is my experience of it; the King's Acre Berry, of which I have had no experience; and the Newberry, which promises to be a success. It has been exhibited at the Royal Horticultural Society's meetings on several occasions. The branches are heavily laden with handsome fruit, which appears to be coreless—a considerable advantage.

Of the Loganberry there is no manner of doubt about its value and usefulness. It is now well known, much appreciated and sought after by the common people, and is now on sale at every greengrocer's shop, fetching here about 4d. to 6d. per pound. The gentleman first to find and practically to point out the merits of this berry was Mr. Crump of Madresfield Court. Among Mr. Crump's varied activities in the county of Worcester, directing attention to the value of horticulture and more particularly fruit-growing for profit, both for farmers and cottagers, were, and are, the lectures he delivers for the Madresfield Agricultural Club. On one occasion his subject was the Loganberry; this is a good many years back. He had thoroughly tested this fruit, and was absolutely convinced of its great value, especially its commercial value for converting into jam and jellies, and therefore spoke of its merits with force born of conviction. In the audience was a gentleman farmer interested in the matter, and at question-time, to test the genuineness of Mr. Crump's conviction, asked him whether he would be prepared to share the loss with him if he planted an acre and it failed. Sportsmanlike, Mr. Crump said he would. Result, three parts of an acre planted; returns, £80 the second or third year after planting. The same gentleman grows tons of the fruit every year now, and has good reason to be satisfied with the results. Mr. Crump made a mistake in not stipulating for half the profits! This is an American fruit, and is a cross between a Raspberry and a Blackberry; and a very even cross it is, possessing, as the plant does, the vigorous growth of the Bramble and its heavy cropping qualities with, partly, the shape, size and flavour of the Raspberry, with a distinct briskness added of its own, which, however, disappears when the fruit is perfectly ripe, followed by a sweet flavour which I consider refreshing, not unlike the flavour of a dead ripe, well-grown Blackberry.

I have already drawn attention to the commercial value of its fruit. I wish also to as emphatically recommend its growth to the cottager. There is no other berry plant with which I am acquainted which will give him a better return for the little labour required in its growth. It seems to thrive well in almost any position, and is not particular as to soil. I have one plant growing and thriving well near the roots and in the shade

THE WEEPING SCOTCH ELM, ULMUS MONTANA PENDULA, A HANDSOME TREE WITH DARK GREEN LEAVES.

of a Poplar tree, on cold, clay soil; but, of course, it would grow and bear fruit much better in the open quarter.

Culture and Propagation.—Like all the Bramble tribe, it will grow freely from seed, but being a hybrid plant, there is danger of its reverting to one or other of its parents under this mode of propagation. The best way is to grow it from layers. This is done by pegging the points of the long shoots to the ground at the end of July, burying the part pegged with soil to the depth of 3 inches or 4 inches. Tread the soil firmly down, leaving 6 inches or 7 inches of the extreme end of the shoot to grow into a young separate plant in the autumn after it has rooted and been cut away. Such rooted layers may then be planted in their permanent quarters 9 feet apart. If planted in rows, the rows should be 5 feet apart. The growth of the shoots in one year is phenomenal, often attaining a length of from 12 feet to 16 feet. Whether one trains the shoots to stakes or to a wire fence, these should be at least 6 feet high, and the shoots should be trained in a horizontal, not vertical, way. Another method of training to which the plant lends itself well is to cover arches, arbours, or screens to hide ugly corners of the garden in summer.

Pruning.—It should be pruned in the same way as the Raspberry, namely, by cutting away (down to the ground) all the shoots which have borne fruit, and that as soon as the fruit has been gathered. This will generally be at the end of July. One's attention must then be directed to the new canes, the growth of the current year, as it is these which will produce the fruit of the next year. They should be tied loosely to the stakes or whatever the old ones have been trained to. They will then be exposed to and have the advantage of all sunshine and air possible until the end of the autumn, when they can be secured to the stakes for winter and next summer. The branches must not be tied too closely together. They should be at least 10 inches apart. About ten inches of the tip end of the shoots should be cut back at the time of tying in in autumn or winter.

Winter and Summer Treatment.—In summer keep clear of weeds by hoeing or hand weeding. Gather the fruit closely every day as it ripens, or the birds will have it. Feed the trees when in fruit with manure-water if possible. It will pay one well to do so. In winter hoe the ground clear of weeds, and then fork the surface soil about two inches deep without disturbing the roots. Give a dressing, 3 inches deep, of good rotten manure to the surface of the soil over the roots as far as they extend. This will mean, when the plants are established, that all of the ground between the rows of plants will have to be manured. The best time to plant is early in November or at any time after until the end of February.

Owen Thomas, V.M.H.

A WATER GARDEN IN THE NATURAL STYLE.

[*See Special Supplement.*]

It is a little difficult for us now to understand the fury of the battle between the formalists and the naturalists in garden matters which raged only twenty years ago. We now know that these are not opposing principles, but that each method should be used in its own sphere. The lay-out of a garden is right or wrong according as the limits of these two spheres have been thoroughly understood. Each case needs a practised eye to determine those limits; but, roughly speaking, it may be laid down that, where Nature refuses to use her powers of attraction, the formalist can have sway, but that she should rule wherever she has given herself the trouble to assert herself. This means that where natural forms are decided, varied and characteristic, the lay-out should give them full value and consideration, but that where the ground lacks distinction and feature, architectural and geometrical treatment may be resorted to. That is why gardeners of old, who were wedded to formalism and formalism alone, liked flat ground to work on. "The most graceful ground is an entire level," wrote John Rea in 1665; "hanging gardens uncapable to be cast into a Level seldom make handsome gardens." If this were true, a more hopeless task than the making of a garden at Mounton could not have been imagined. Luckily, we now not only recognise the great beauty of such a site, but we have sound views as to how it should be treated. We are convinced that when hill and rock and rushing stream arrest attention by their prominence, they should be accepted as the chief lines of a lay-out, that artifice should follow in their train and not oppose them, that man should, in such surroundings, leave the compass and the spirit-level and study Nature's own modes of expression. That has been the attempt at Mounton, and the results are to be judged by the accompanying supplement. The site was a rocky limestone gorge, with sheer cliffs alternating with steep tree-clad hangers. At their foot a stream wound its way, sometimes surging round a bluff, at others running easily in the midst of a narrow meadow composed of the sandy soil brought there by the water's action of a million years. The general scheme of the grounds comprised a high and airy tableland, which could adequately accommodate on its comparatively flat surface a house and its terraces. The latter were to be separated by some broken rocky ground set with Heaths and low shrubs from the wooded slopes and precipitous sides of the limestone formation, which offered great scope for picturesque wild gardens. Pathways were engineered along the sides of these slopes, and they lead to the level bed of the stream and to what was a little meadow that lay between it and the lane. There was no hurry whatever to realise all this scheme. It was begun ten years ago, and the house and much of the formal lay-out on the upper flat still remain unaccomplished. The owner lives in the next parish, and this is the work of his leisure moments and for the employment of available labour in the winter months. The present purpose is not to describe the whole grounds, but only the water garden, made out of the stream itself, with the meadow on one side of it and the edge of the slope on the other. It was at first proposed to use the original stream-bed and its banks for gardening purposes; but when, after some very heavy rains, much of the new planted stuff was swept away down stream to Severn Sea, and when at the close of a dry summer that which had not been swept away in the winter suffered severely from drought, owing to the stream becoming a mere rill, it was realised that serious alteration of the stream was necessary and that an artificial stream-bed where the water would be under command was essential.

It is not easy to get the ordinary gardener or labourer to understand natural forms. He can dig you a ditch or a canal, or even serpentine you a walk. But they will be set out with great

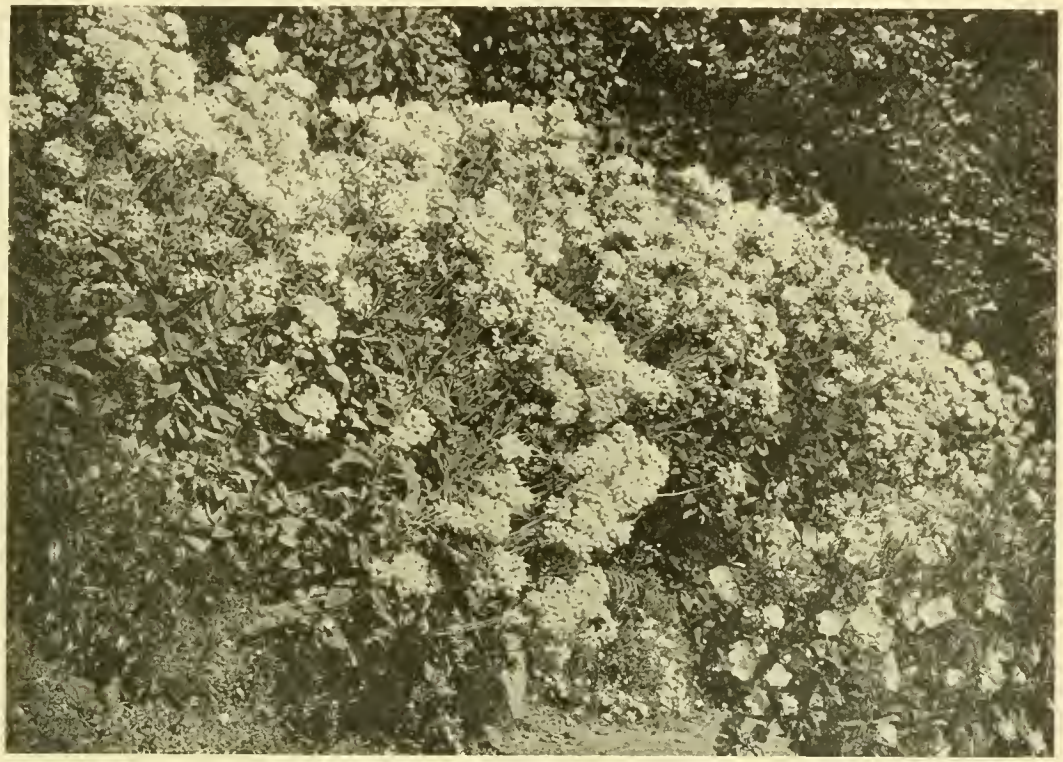
A BROAD EDGING OF THRIFT OR SEA PINK, A USEFUL PLANT FOR POOR SANDY SOIL.

precision by means of pegs and a garden line. The making of the new stream-bed, therefore, needed close supervision and even the direct labour of the designer. Just before the original stream-bed took a decided turn from east to south he ordered a trench to be dug about twelve feet wide and five feet deep. This lay in the meadow, started within a few feet of the stream bank, and rejoined the original stream some eighty yards lower down. The top soil was wheeled well away, in order that it might not be buried, but be replaced as the top soil in the new arrangement. The under soil was tossed on either bank as unevenly as possible. All this preliminary work could be carried out by the labourers alone, but that done, the constant attention of the designer was essential. Uneven side bays were dug out on each side of the trench, while portions of the heaped soil were raked back into it. The accidental unevennesses produced by this process were used as a basis for establishing curves, levels and contours as closely as possible resembling those of Nature. At the bottom of the trench a small waterway was engineered, its windings being made reasonable by the introduction of realistic bluffs, and the differing widths being made convincing by the placing of barrier rocks. The same system makes all the zigzags and ups and downs of the pathways reasonable, the paths themselves being mostly laid with rough limestone paving procured from a stratum in a neighbouring quarry, which works out into slabs 2 inches or 3 inches thick and with fairly flat surfaces. The water was let in from the natural to the artificial stream-bed through a pipe in the bank, which can be closed, half opened or fully opened at will. The water is made to look, at its entry, as if it bubbled up amid great stones from a spring. It then dances rapidly down over stones and round corners until it reaches a wider and more level portion of the bed, where it lies placidly, and is crossed by the stepping-stones that form the foreground of the supplement. There are considerable areas of much-broken and often rocky ground encompassing both stream-beds, all of which is planted. Away from streams or paths flowering shrubs of some size are set. Lilacs, Japanese Guelder Roses, Judas-trees, Weigelas, Deutzias and Philadelphuses represent the deciduous section, while for evergreens we find Choisyas and Savins. Tall perennials group with these or stretch out beyond them, such as Rudbeckia laciniata, Anemone japonica and Phloxes. Lower growths at first intermingle and then dominate as the path is approached. Lavender bushes, prostrate Junipers and Cotoneaster horizontalis are associated with Harebells, Foam-flower, dwarf Irises, Stonecrops and their like. The stream edge is set with water-loving plants. The great leaves of Saxifraga peltata and Rodgersia podophylla give horizontal lines, while New Zealand Flax and Siberian Irises soar aloft.

The whole race of Astilbes flourishes amazingly and reproduces itself by seed. This planted ground has taken up half the width of what was meadow, but the other half is used as lawn. Next to the road there are a wall, a shrubbery border and a path. The open shed that served for the animals that pastured in the meadow is used as a tool-house, but its eaves are brought forward so as to afford a sheltered and covered seat, from which the water garden and the great cliff can be enjoyed by the eye. The lawn itself is no longer level like the meadow was, but presents the appearance of an unused stream-bed grassed over. The effect is very satisfactory, but the plan was adopted for purely practical reasons. The occasional torrential rains of this Welsh borderland bring down such masses of water that injurious floods occur. Their destructive action can only be obviated by getting rid of the water as quickly as possible. The sharp bend of the old stream tends to hold it back, and so a flood-gate is introduced at the head of the lawn, and when much pressure of water threatens it is opened, and a great part of the water pours down the centre of the lawn, obviating all danger to the garden and to the low-lying gardener's cottage.

Despite its vagaries of water-level, a good deal of gardening, prudently ordained, takes place on the banks of the old stream. More delicate planting of water subjects takes place along the sides of the artificial stream. Here one of the greatest successes is Primula rosea. This Himalayan variety, while by no means so particular and niffy as others of the family, is not everywhere at home. Here it not only grows luxuriantly, but sows itself freely, and considerable stretches of damp ground on either side of the stepping-stones are studded by myriads of bright pink blooms in March.

H. Avray Tipping.



A LITTLE-KNOWN SHRUBBY CALCEOLARIA, C. INTEGRIFOLIA, IN A SOUTH DEVON GARDEN. THE PLANTS ARE OVER FOUR FEET HIGH.

THE FLOWER GARDEN.

THE THRIFT AS AN EDGING.

Too often in these days of new plants the merits of many old ones are overlooked, to the detriment of our gardens. One such plant is the common Thrift or Sea Pink, Armeria vulgaris, than which none is better for forming a neat and attractive edging to a pathway, particularly where the soil is sandy and thus unsuitable for many kinds of plant-life. The Thrift is a good-natured subject, and once planted will take care of itself, except that it may occasionally be necessary to curtail it somewhat when it encroaches too far on other domains. The illustration on page 386 depicts a broad edging of one of the varieties of the common Thrift, and shows how effective it is when in flower. The blossoms last in good condition for at least six weeks, but even when they are absent the neat carpet of green foliage makes a useful and not unattractive edging. C.

A LITTLE-KNOWN CALCEOLARIA.

Calceolaria integrifolia is apparently a rare plant, as when I sent flowers to Kew for naming I was told that they did not possess it, so I sent them some cuttings. It is extremely common in the gardens near the mouth of the River Dart, where it attains large proportions, and is one of the finest of summer-flowering shrubs. It is termed "shrub" because it is of woody growth, and a specimen here a few years ago was 6 feet in height and 7 feet in diameter. This would have considerably increased in size if it had not been cut back.

This Calceolaria has been growing at Kingswear for over forty years, but it is impossible to discover the source from which the plants originated. It has now spread from Kingswear over the greater part of the south-west of England, and has apparently been grown merely as a showy subject of easy culture, rather hardier than the majority of shrubby Veronicas so much in evidence along the south-western coast-line. It is at its best in July, when it is a perfect sheet of gold, and it carries a fair amount of blossoms until well on into October. It is to be found in cottage and farmhouse gardens as well as in the ground surrounding the larger residences, and is invaluable for its masses of glowing colour. Some writers on the Calceolaria have stated that this species is useless for outdoor culture in England; but at Kingswear it is never harmed by the frost, which is rarely severe in that locality, as it is entirely sheltered from the north and east, while the steep slope immediately overlooks the salt water. Old bushes, however, have a way of becoming bare in their lower branches, when they are usually destroyed and their places filled with younger plants. In the severe weather of February, 1912, some plants on the borders of Dartmoor experienced 27° of frost, but though every leaf was browned, the shoots broke well again in the spring and now are fine plants, so that it is evidently far hardier than has been imagined.

The plants in the border shown in the illustration on page 387 average over four feet in height, and, as will be seen, are well clothed with foliage to the ground-level. As these occupy a sheltered site, they will in all probability retain their lower leaves for a longer time than examples standing in a more exposed position. This Calceolaria has the advantage of being quite indifferent to soil. In rich and deep ground it forms exceptionally strong growth and flowers profusely; while in poor, stony and shallow soil, though making but little growth, it blossoms with equal freedom. At Kingswear a line of plants is growing in very shallow, stony soil immediately at the top of a dry wall, over which Mesembryanthemums hang in sheets, and backed at a distance of 18 inches by an old hedge of Laurustinus. This site, facing due south and entirely unshaded, is dust dry during the summer heat, owing to the combined action of the burning sun and the roots of the Laurustinus, but the plants, though making but little growth, never fail to bloom abundantly. Wyndham Fitzherbert.

A BEAUTIFUL CINQUEFOIL.

A charming plant flowering just now is Potentilla nepalensis, known in a good many gardens as P. willmottiana. It somewhat resembles a Geum in habit, the prostrate, spreading branches being freely bedecked with flowers of good size. It is a useful plant for either the border or the rock garden.

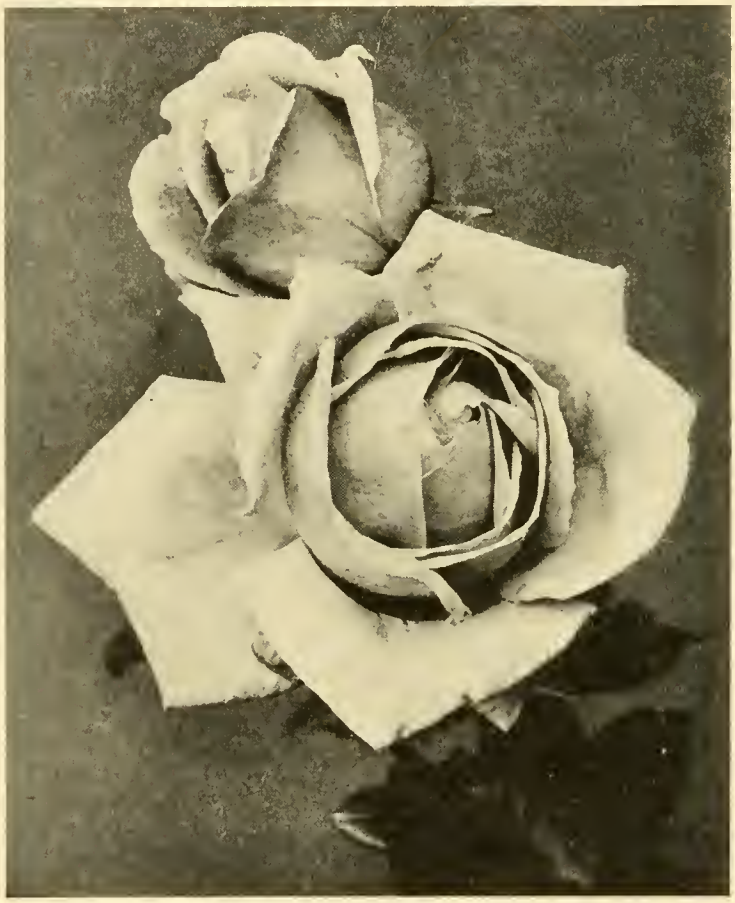
THE ROSE GARDEN.

SEASONABLE WORK AMONG ROSES.

Now that our first show of Roses is past, it is well to do all we possibly can to help in the future displays; and much can be accomplished by cutting away any crowding and superfluous wood. The large trusses of spent blooms might often be cut off a little lower than is generally practised. In fact, the removal of stale flowers might be done rigorously enough to form a sort of summer pruning. We notice that our chief growths push from the terminal eyes of the shoots, and this often leaves several dormant ones at and near their base. By more judicious cutting back we secure a lower and more bushy break of young growth, thus doing away with the chief cause of leggy and gaunt specimens. At the same time we should carefully avoid any tendency to crowding the centres of our plants. Much of this summer pruning might perhaps be more correctly described as thinning, for our main object is to stop badly-placed growth and overcrowding.

After flowering so unexpectedly well as our Roses have done this season, they will, naturally, need some support in the way of mulchings, if not already supplied in sufficient quantity. Now is the best time for sprinkling artificial manures over the surface soil, and if it can be done previous to a shower, so much the better. A great deal of the feeding properties of our artificials is lost by air evaporation, and I strongly advise the hoe being used directly after sowing. This mixes the soil and manure, covering the bulk of the latter and so conserving its food, which will be assimilated all the sooner by rain or a free use of the water-can. If one intends to water, the majority of manures might well be used in the liquid, and will not only be quicker in their effects, but a considerable amount of waste will be avoided. I am a great believer in the hoe upon all suitable occasions, whether weeds are present or not; also in drawing some of the soil well up to all dwarfs. You cannot do wrong by a persistent use of the syringe still, for it is more often than not the worst time for mildew when our second and third crops of young growths appear, and by consistent washing we prevent any serious settlement of this disease.

A great deal can be done in the way of summer propagation independent of the usual budding. Three parts ripened wood can be rooted freely upon a partially-shaded border of sandy loam. Younger lateral wood will be useful if rooted in boxes of sandy loam and leaf-soil, or in pots of similar compost, and kept quite close for a few weeks. But there are always interesting series of seasonable articles on propagating that by their clear illustrations go further in helping amateur readers than any mere words of my own can do. One point I have not yet noticed, however, is the easier propagation of our Moss, Damask and Cabbage Roses. These do not produce any great number of sucker-like roots suitable for parting from the parent plant, and may be made more plentiful if a few good shoots are layered into prepared soil around their base. A slight cut of the ordinary description when layering will help very much, and if left over until a second winter they will lift with really good balls of root. This is a better plan than attempting to root cuttings, and I advise it now, even if one's young plants are not to be removed. It helps in getting more vigorous bushes, and we may take it as Nature's own lesson that all subjects having a tendency to run suckers out for fresh soil do better if encouraged or transplanted frequently. A. P.



NEW SEEDLING ROSE GORGEOUS, AWARDED A GOLD MEDAL AT THE NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW. THE COLOUR IS SOFT PINK, SUFFUSED ORANGE.

A BEAUTIFUL NEW ROSE.

Among the many new seedling Roses that were shown at the National Rose Society's Provincial Show at Gloucester was one named Gorgeous, shown by Mr. Hugh Dickson of Belfast, and for which he received a gold medal. As will be seen from the accompanying illustration, this is a bold, full flower, and the colour is soft pink, suffused orange. It should prove a good Rose for both garden and exhibition purposes.

GARDENING FOR BEGINNERS.

THE PROPAGATION OF HEATHS BY CUTTINGS.

THE Heath or Erica family is a fairly large one, and consists of both hardy and greenhouse plants. They differ widely in their habit of growth, ranging in height from about nine inches to six feet or more. The various species

1.—HEATH CUTTINGS PLANTED IN A POT FILLED WITH FINE PEAT AND SAND.

and varieties blossom at different seasons, no period of the year being without its flowering Heath. Many amateurs are under the impression that cuttings of both greenhouse and hardy Heaths are difficult to root. This, however, is quite a mistake; the cuttings root very easily, provided one or two very simple rules are followed. No season of the whole year is better than August and early September to insert the cuttings. At this time there are plenty of half-ripened young shoots on the plants, which make excellent cuttings.

Preparing the Pots.—As comparatively little depth of soil is necessary for Erica cuttings, the pots should be filled at least half full of broken crocks or other suitable material at hand for drainage. Over this place a layer of rough peat or moss to prevent the fine soil trickling down between the crocks and preventing the free passage of water. A suitable compost in which to root the cuttings consists of two-thirds peat, passed through a quarter-inch mesh sieve, and one-third sand. Fill up the remaining space in the pots with this material, press firmly, and leave the surface of the soil a quarter of an inch below the top of the pot to permit of a little fine sand being sprinkled over the surface and to allow space for watering. Water each pot well as soon as filled and leave it long enough to drain thoroughly previous to inserting the cuttings. The most serviceable sized pots to use are those known as 5-inch or 48 size. These are convenient to handle, and are just wide enough to take a 4-inch bell-glass, as shown in Fig. 2.

Taking the Cuttings.—The largest percentage of successes may be expected when cuttings of medium growth are inserted. In most instances the side shoots growing on the strong, vigorous young growths will be found to answer this description, and in August will be partially ripened. Thin, weak cuttings, though they will root, seldom grow away kindly and make good, sturdy plants, while many of the thicker, sappy growths would damp if inserted as cuttings. An inch to 1½ inches, not longer, is a good average length for a Heath cutting. Many of the side shoots will be found about this length, and if removed carefully with a slight downward pull will come away from the main stem readily and have a nice heel at the base. Failing this, the shoots must be cut off just below the leaves at a joint. The bottom leaves must be carefully removed. A small, thin-pointed pair of scissors are useful for this purpose.

Planting the Cuttings.—The cuttings may be inserted moderately close together. A 5-inch pot (48 size), as shown in Fig. 1, will accommodate from thirty to three dozen cuttings. Place a layer of

2.—COVERED WITH A BELL-GLASS TO ASSIST ROOTING.

fine sand over the surface of the pot, take a small pointed stick (dibber) in the right hand and a cutting in the left. Make a hole with the dibber, and as it is drawn out insert the cutting, and allow the sand to trickle in and fill up the hole. Press the cutting in firmly with the other (thick) end of the dibber. Water the cuttings with a fine rose on the spout of the watering-can, and allow the pot to drain for a few minutes before placing on the bell-glass, as shown in Fig. 2. Should a propagating-frame with just a little bottom-heat be available, the pots may be plunged in this. Failing this, place the pots under a hand-light in the shadiest part of the greenhouse or in a cold frame. Wherever they are placed, shade the cuttings from sunlight.

After-Treatment.—Every morning the bell-glasses should be removed and any moisture collected on the inside wiped off with a chamois leather or cloth. Water the cuttings when dry with a rose on the watering-pot, and remove any damp or yellow leaves if present. The young cuttings will root in from two to three months, when it will be necessary to gradually admit air, this being done, to start with, by tilting the bell-glasses before removing them entirely. When growing freely the tips of the shoots should be removed, to induce the plants to make several shoots each and form nice little bushy plants by next May, as shown in Fig. 3. These young plants, if of a greenhouse variety, should be potted off singly in small pots, or, if belonging to the hardy section, planted out 4 inches apart on a prepared border outside, from where, in the following autumn, they can be transferred to the positions for flowering.

Hardy Heaths.—By growing a selection of a dozen hardy Heaths, flowers may be looked for throughout the year. In November, December and January E. hybrida is the most noteworthy. It is a dwarf spreading plant with pinkish red flowers. Following this closely we have E. lusitanica (codonodes), a tall-growing white Heath 4 feet to 6 feet or more in height; and the dwarf-growing E. carnea, reddish purple, and the white variety alba, all of which make a beautiful display for the first three months of the year. April and May sees the Mediterranean Heath, with reddish pink flowers, bushes 4 feet to 5 feet in height, covered with flowers, and the smaller dwarf variety alba. Then in summer and autumn we have E. ciliaris, E. cinerea and E. Tetralix, three dwarf-growing Heaths with pinkish red blossoms, the last two with white varieties. In autumn we have the Cornish Heath, E. vagans and the white variety, flowering freely. Propagated in a similar way and requiring identical treatment are the numerous beautiful varieties of the Ling or Calluna vulgaris, and the Irish Heath, Dabœcia polifolia, both of which flower from July to October. A. O.

3.—THE YOUNG PLANTS READY FOR POTTING OFF.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Double Arabis.—To ensure a good, even growth and plenty of bloom, propagation should be attended to now. Where the soil is of a light nature, cuttings put in now and kept sprayed will make quite nice plants by October or November, ready for removing to the beds; but where the natural soil of the garden is heavy, it is just as well to put three or four cuttings in a 3-inch pot, and these, if placed in a frame and kept shaded and sprayed, will soon pick up and make roots, when the lights may be removed and the plants treated quite hardily. Though a little more trouble, the results are infinitely better.

Violas sown in June should now be ready for transferring from the seed-boxes or beds to any vacant plot in the kitchen garden that may be suitable. Make the soil fine, and after transplanting keep them well supplied with water for a few days to ensure the plants growing away nicely.

Named Violas, owing to the drought, have in many instances gone out of bloom somewhat early. If the plants are cleaned over and partially cut back, it should ensure getting a crop of good, sturdy cuttings for propagating in September or early October.

Biennials and Perennials sown in June will in most instances be ready for transplanting into nursery beds. As in the case of the Violas, it is essential to make the soil very fine. This ensures plenty of fine roots, so that the young plants lift well, either in the autumn or spring, whenever they are planted in the quarters in which they are to bloom.

Early-Flowering Chrysanthemums in beds or borders should now be liberally supplied with manure-water, though if dry it is best applied after a preliminary watering with clear water. This should be given every few days, and the additional outlay in labour will be well repaid by the extra size and colour in the blooms.

Plants Under Glass.

Amaryllises that were flowered early will now be losing their foliage. Water should be gradually withheld, and the plants given full exposure to sun and air for a time before storing them away. Later batches that have not matured so much should be kept watered till all the foliage commences to turn yellow, when they should receive the treatment recommended above. Seedling plants must be kept growing until they attain flowering size, and those that are not already in pots large enough to carry them through the winter should have a shift at once, so that they may get a good hold of the soil before the short days. Keep a fair amount of heat and moisture in the pit or house in which they are being grown, but sufficient air must be given to ensure the foliage keeping strong and hard.

Hydrangeas.—The present is a good time for propagating the different varieties of Hydrangea Hortensia. They will root quite readily in a cold frame. Up till last season I always rooted them singly in 3-inch pots, but I then found they rooted much quicker and made stronger plants if pricked into a bed of sand and leaf-soil, whence they were potted straight into their flowering pots (4½-inch).

The Kitchen Garden.

Leeks for late use may still be planted, selecting a piece of ground that is not likely to be wanted till quite late in the spring. As the plants may be a good size when planting out, they should be well watered for a time to prevent undue flagging. Early-planted Leeks must also be kept well watered if good specimens are desired, those for exhibition having a little more soil brought up to them about every fourteen days. Keep the paper collars, if used, just above the soil.

Runner Beans.—To keep up the supply this crop must not be stinted for water or manure, and when liquid manure is not available, a sprinkling of artificial once a week will do almost as well.

Cauliflower is another vegetable which will not thrive except under moist conditions, and as Peas become scarcer, this vegetable will be more in demand, so that the plants should be watered at least twice a week during really dry and hot weather.

Tomatoes are doing pretty well this season, and where the plants were got out early, good crops are the result. Give water when necessary, and thin the foliage somewhat for the fruits to secure a full measure of sun. To get real deep-coloured fruits, gather early, just as they are turning from yellow to red, and store in light and air-tight boxes, when the colour will be equal to the very best fruits from under glass.

Fruits Under Glass.

Plums that are nearing the ripening stage must not be subjected to too much water overhead or at the root, or cracking may result, especially in the Gage varieties. A moderately dry and buoyant atmosphere, with just a suspicion of heat in the pipes on cold, damp nights, is the best for these fruits, and under such conditions they will keep for quite a long time.

Pears also require much the same treatment. The early varieties, such as Clapp's Favourite, Williams' Bon Chrétien and Marguerite Marillat, are fast ripening, and if not already placed by themselves away from the later ones, they should be shifted at once, as these latter will still take a fair amount of syringing and feeding.

Apples. — The early varieties also will be ripening, and such varieties as Lady Sudeley must not be kept about too long, or they are very apt to go soft and insipid to the taste, though they might look well. Later varieties that are swelling may receive a fair amount of syringing. This is essential, as colouring in Apples is, I think, much influenced by the amount of moisture in the atmosphere.

Hardy Fruit.

Raspberries.—The fruit being gathered, all old canes should be cut out at once, thinning the young ones also so that they receive a maximum amount of light and air. Should the canes not have made much growth, a good soaking of liquid manure will help them materially. Autumn-fruiting varieties may also be the better for a good feed, and if not already covered with fish-netting, it should be put on before any of the fruits ripen, or they will quickly be depleted by the birds.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Layering Carnations.—This work must now be completed without delay. Acting upon a hint thrown out in THE GARDEN a few years ago, I have proved that it is unnecessary to form a tongue in the layer, as is usually done. If an incision is made with a thin, sharp knife at the base of the joint and carried up through and out again just above the joint, other matters being properly attended to, 95 per cent. of the layers will root as well as by the older and more tedious method. Give the layers a watering when the operation is finished, and see that they are not allowed to become quite dry till roots are emitted.

Preparing Daffodil Quarters.—The Daffodil takes a very short period of rest, and where fresh plantations are to be made, the bulbs should be bought as soon as procurable. Meanwhile, the ground should be got ready.

Staking Gladioli.—These showy flowers will soon be throwing up their flower-spikes, and will require support. In the case of the commoner varieties, such as brenchleyensis, Hollandia and Childsii, planted in lines, all that is needed is to drive in a few stout stakes, run a line of twine along, and then tie the individual flower-stems to the stretched line of twine. Fine named sorts, planted irregularly, should each have a Bamboo stake, care being taken not to pierce the bulb when inserting the stake in the soil.

The Rock Garden.

The Arenarias.—Although belonging to the "humbler creation" in the rock garden, the Arenarias should not be looked upon as a negligible quantity, for they have a beauty all their own. Especially is this the case with A. balearica when seen clothing the surface of a damp stone. A. cæspitosa, A. montana and A. tetraquetra are all gems in their way, and should be included even in small collections.

The Shrubbery.

Summer Pruning.—By this date it will be found that Laurels and other strong-growing shrubs have developed a few over-vigorous shoots, to the detriment of the surrounding occupants. These should be cut away at once.

Preparations for Transplanting.—Where it is intended to transplant Hollies or other evergreens in the autumn, it will be well to run a sharp spade round the plants, so as to sever the roots at a distance of about two feet from the stem, giving the plants a good watering afterwards if the weather happens to be dry. By doing this now, the plants will receive less check when transplanted.

Plants Under Glass.

Training Climbers.—If this work is not regularly attended to, the young growth becomes entangled and the work is rendered doubly difficult. Thin out superfluous shoots, as it is only on well-ripened shoots that a full crop of flowers can be expected.

Crassula coccinea.—We grow quite a large batch of this old-fashioned succulent, and the bright, long-lasting trusses of waxy flowers are much admired. This is a good time to propagate plants. One cutting can be inserted in a 2½-inch pot, or three in a 4-inch pot. Use a compost of fibrous loam, sand and finely-pounded potsherds. Stand the pots in an airy frame and keep them rather dry after the first watering.

Sowing Mignonette.—A sowing of Mignonette should now be made for spring flowering. If wanted in 5-inch pots, Machet is the best variety, and it should be sown in the pots in which it is to flower. Sound loam, with about a third part of well-rotted cow-manure and some sand and old mortar, forms an excellent compost. Ram the soil fairly firm, scatter a few seeds equally over the surface, and cover lightly with some fine soil. Water prior to sowing, of course. Stand the pots on ashes in a shallow frame and cover with a sheet of newspaper till germination takes place. For large specimens the same size of pot may be used in the meantime, and some of the giant-flowered varieties should be sown for this purpose.

Fruits Under Glass.

Repotting Strawberries.—Plants must now be shifted into their fruiting pots, which should be 6 inches in diameter. See that they are clean, dry and efficiently drained, with a sprinkling of soot over the drainage. If the loam is rather heavy, about a third part of horse-manure should be used with some wood-ashes. If the loam is inclined to be light, well-decayed cow-manure should be used. Pot firmly, and stand on a bed of coal-ashes of at least 6 inches in depth to ensure perfect drainage.

The Hardy Fruit Garden.

Preparing Strawberry Quarters.—If they are expected to yield a full crop next season, Strawberries should be planted not later than the middle of this month. The ground should be deeply trenched; but, generally speaking, bastard trenching is to be preferred. Unless the ground is very rich, a layer of manure should be placed below each of the two spits. The distance at which the plants should be planted depends upon the vigour of the variety, but from 2 feet to 2½ feet between the rows and about fifteen inches between the plants in the rows will be found suitable.

The Vegetable Garden.

Winter Onions.—These should be sown by the middle of the month, and the ground should now be prepared for their reception. Onions require good cultivation. Trench the ground and work in a good quantity of organic manure. Nitrogenous matter can be given in the spring. For summer use White Lisbon is excellent, and for a keeping variety for autumn sowing Trebons is hard to beat. Sow in drills about a foot apart.

Lettuce.—A sowing should be made now for spring use. For a Cos, Bath is good, and for a Cabbage variety Sutton's Standwell can be highly recommended.

Celery will be benefited by a sprinkling of soot on a dewy morning. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

DAFFODIL SHOW NOTES.

A Beginning.—I know several people, among others a clergyman, a country squire, a doctor and a clergyman's son, who are sitting on a gate wondering if they will come down on the show side or not. There must be others there, too, whom I do not know. Let me assure them that they need not hesitate. Growing for show is a most pleasant occupation and Daffodil folk are pleasant people. If there is no local show near at hand, there are the two large ones at London and Birmingham, where every inducement is held out to the novice to make a start by the provision of classes where he will meet only exhibitors of the same standing as himself. The beginners' section has been a huge success at the "Midland." I would advise, if it is not too late, local show committees to get a copy of that schedule and frame theirs on similar lines. In my opinion, nearly all Daffodil societies might do a good deal more than they do in tempering the wind to the hesitating lamb, even if, money being none too plentiful, there has to be a curtailment of either prizes or classes in the open section. I should imagine everyone who is seriously thinking of joining the jolly band of exhibitors has already a collection of some sort, and that he or she—for I am always glad to think that the "shes" take the part they do in the local exhibitions—has a more or less embryonic knowledge of suitable varieties. They want to extend both. I venture to suggest that they should at once order from the Royal Horticultural Society, Vincent Square, Westminster, the new Daffodil Year Book at the cost of 1s. 6d. In it will be found a detailed list of all the winning flowers shown this spring at *both* London and Birmingham. A careful study of these two, side by side with a few trade catalogues of the present year, will be of the greatest help in making a selection of the varieties that are the best to buy, either as a beginning or as an addition.

Points to be Remembered.—First, early planting is vital for the production of prize blooms. I like making experiments, and this autumn I am going to plant a row of the same variety every week from now until the end of November and watch the result. I know, of course, that August-planted bulbs will give far better flowers than late November ones, but I am not sure of the date when palpable retrogression begins. Without this practical test I would fix the date about September 21, and say every show bulb must be in the ground by then at the very latest, and that from now onwards the earlier the better. Secondly, good cultivation tells most decidedly. I speak from my own personal experience, for I know the difference it has made to me in exhibiting at Birmingham. My recent successes there have been largely due to this. Of all the letters that I have from time to time received on matters pertaining to the show stage, none has given me more satisfaction than one I received about three years since from Mr. E. M. Crosfield congratulating me not on my *success*, but on my good and improved *cultivation*. The two words, from an exhibition point of view, are practically synonymous. Those who think they can attain the first without the second are Daffodil—not Middleton—moonlighters, expecting what they will never get. There was a good concrete example of this at Birmingham this spring. White Knight, which I consider the acme of refinement, even throwing in Mrs. Ernst H. Krelage and White Emperor, was staged more than once in the single bloom class. The best—the one that had had the best cultivation—won. The other was not among the first five. What made so much difference? Someone may ask what do I mean by cultivation. Shortly, this: (1) Preparation of the soil by double digging, adding in the process some bone-meal. (2) Covering the beds with a light covering, such as fine leaf-mould or peat moss in case of very severe weather, unless the soil is very cold and damp naturally, when I would use some light covering, such as Heather. (3) Systematic hoeing or stirring the soil between the rows every two weeks from the time the leaves are an inch high until the blooms are nearly ready to expand, and then two or three times before the bulbs are lifted. (4) Being "easy" about dividing up. Over-division is a huge mistake; it weakens the plants so much. (5) Early planting.

Some Varieties Suggested.—I am going to confine myself to some of the moderate-priced ones that I do not think are so well known as they might be. I have put to each the approximate price.

Trumpets.—Cornelia (6d.), Hamlet (2s. 6d.), Leiden Jar (10s. 6d.), Cygnet (5s. 6d.), William Baylor Hartland (10s. 6d.), Treasure Trove (10s.), Loveliness (12s. 6d.), Mrs. G. H. Barr (21s.), Cleopatra (20s.), Rising Sun (21s.) and Diogenes (20s.).

Incomparables.—Northern Light (2s.), Ursula (2s.), Neptune (21s.), Steadfast (2s.), Warden (2s. 6d.), Noble (5s. 6d.) and Solfatare (2s. 6d.).

Barri.—Cossack (12s. 6d.), Ethelbert (3s.), The President (25s.), Charles (21s.), Charm (21s.), Occident (2s. 6d.), Red Chief (2s. 6d.), Orestes (9d.), Red Eve (10s.), Zenith (3s. 6d.), Cœur de Lion (2s. 6d.), Armorel (9d.) and Red Emperor (21s.).

Leedsii.—Norah Pearson (15s.), Kittiwake (15s.), Thora (21s.), Countess of Southesk (4s.), Evangeline (2s.), St. Olaf (12s. 6d.), White Countess (5s.) and Venus (21s.).

Poets.—Millie Price (2s. 6d.), Kingsley (20s.), Matthew Arnold (15s.), George Herbert (5s.), Acme (20s.) and Orange Ring (2s.).

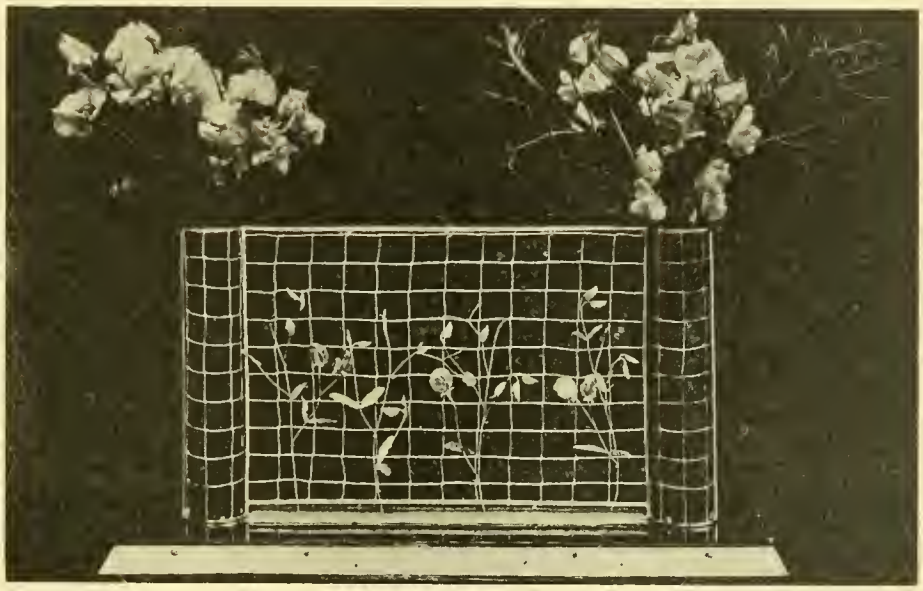
Poetaz.—Admiration (3s.), Orient (1s.) and Sunset (1s.).

The Late Robert Sydenham.—I cannot close these notes without a reference to poor "Uncle Robert," whom everyone recognised as the life and soul of the Midland Daffodil Society. In the midst of a busy morning he was called away, never to take part again in his huge business and the many horticultural activities which must have been to him life itself. He was a keen man of business, and the two flowers to which he devoted especial attention in this connection were the Daffodil and the Sweet Pea. By his efforts these have been made more popular than otherwise they would have been, and as we who love Daffodils are the gainers, let me in your name say how grateful we are for what he has accomplished. It is as a populariser of the Daffodil (and the Sweet Pea) that his name will live in horticultural annals.

Joseph Jacob.

A SWEET PEA CHAMPIONSHIP TROPHY.

The Boundary Chemical Company of Liverpool are offering an International Sweet Pea Championship Challenge Trophy, to be competed for this season at the Carlisle and Cumberland Horticultural Society's Show at Carlisle on August 13 and 14. The chosen representatives are: England, Mr. A. E. Usher; Scotland, Mr. J. A. Grigor; Ireland, Mr. E. Cowdy; and Wales, Mr. T. Jones. The contest is the outcome of a wish expressed by Mr. Walter P. Wright that the champion growers should meet together each year at a given place for a friendly contest. The size of the trophy is 24 inches long by 12 inches high.



THE CHAMPIONSHIP CHALLENGE TROPHY FOR SWEET PEAS TO BE COMPETED FOR AT THE CARLISLE SHOW ON THE 13TH AND 14TH INST.

A Good Dwarf Shrub.—The Dyers' Greenwood (Genista tinctoria) is a very attractive dwarf shrub, and flowers during June and July. Growing some six inches to nine inches high, the spreading plants clothe the ground, and during June and July produce a profusion of yellow blossoms. There is no need to fill pockets in the rockery with rich soil for the Dyers' Greenwood; in fact, the plants flower more abundantly in poor, sandy soil.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

BOUNDARY WALL (*Gigits*).—You would not harm the wall in any way by doing what you propose, and if there is an opportunity for the roots of the plants to descend later into the crevices of the wall, quite a number of the plants would thrive. As you desire to add to the height of the wall, you cannot do better than sow seeds of rather tall-growing Wallflowers, Intermediate Antirrhinums in variety, and red and white Valerian. Papaver nudicaule would be also good and pretty, both in effect and variety. The present is not a good time for the work, and late August to October would be much better. The Valerian in such circumstances often attains a height of 2 feet, and is also a good perennial. The Antirrhinums, too, are often perennial in such positions.

IRIS DISEASED (*A. E. T.*).—The Iris is affected by the Iris leaf blotch, and all diseased parts should be collected and burnt. The disease has been less prevalent this year because of the extreme dryness. A wet season always encourages the spread of such things. By dusting the soil of the Iris bed with lime, the ground spores of the fungus might be kept in check. In a year like 1912, however, you might try syringing with sulphide of potassium, 2oz. to a gallon of water, with soft soap freely added; or you might, when the plants are moist, dust them with dry Bordeaux powder, soil and all. The dusting should take place in April or May to act as a preventive measure, and probably no other will be needed. To wait till the plants are overwhelmed by disease is wrong. Isolate the weakly plant of I. orientalis, or, better still, dig it up and burn it. The best time to replant the Hellebore, when it should also be divided up quite freely, is August.

TREES AND SHRUBS.

RHODODENDRONS (*T. W. H.*).—You do not say whether your Himalayan Rhododendrons are in pots or planted in borders. If in the former, expose the plants from now to the end of the year to plenty of sunshine, and do not keep them too wet at the roots. This treatment will conduce to the well ripening of the wood and to the formation of flower-buds. If they are planted in a border, you cannot do much to hasten their time of flowering; but no doubt they will flower in due time and will repay you for waiting so long. Seedling Rhododendrons do not flower so soon as grafted ones.

THE GREENHOUSE.

SECONDARY BLOOMS ON PELARGONIUMS (*M. L.*).—Some varieties of Zonal Pelargoniums are far more likely to produce secondary heads of blossom than others. You do not say whether the trouble is limited to one kind, or if all the varieties are similarly affected. Plants whose roots are in a poor condition, and are, consequently, growing weakly, are more prone to this behaviour than the more robust ones. Plenty of air, good healthy roots and a reasonable quantity of water consistent with effective drainage are the more effectual methods of keeping this in check.

FUCHSIAS LOSING THEIR LEAVES (*R. J. C.*).—As Fuchsia plants are, generally speaking, of such easy culture, it is difficult to assign with confidence any reason for yours behaving in the way they have done. In the first place, you say that they did not lose their old leaves in the spring, which would suggest that you kept them freely watered throughout the winter. This might be answerable for some of the trouble, as the plants naturally would not start away with the same vigour as if they had passed the winter in a fairly dry and dormant state. Even then they should not have behaved so badly as yours have done. Another question is whether any deleterious matter came by any chance to be mixed with the potting compost. You do not say whether you have turned out two or three of the plants, in order to examine the state of the roots. If a fair amount of fresh, healthy roots can be seen taking possession of the new soil, your plants will no doubt now recover and flower well towards the end of the summer. If no healthy roots are to be seen, we advise you to repot in some fresh compost. In any case, do not stand the plants in full sun, but in a partially-shaded spot, and spray them over with the syringe two or three times a day, as atmospheric moisture is very beneficial to Fuchsias in general.

HYDRANGEA NOT FLOWERING WELL (*L. C.*).—The specimen of Hydrangea sent is not the common Hydrangea (H. Hortensia), but the variety Lindleyi. This differs markedly from the common kind, inasmuch as it is of more slender growth and the flower-heads much smaller. Another important item is that in this variety the large sterile blooms, which form the showiest portion of a cluster of Hydrangea flowers, are limited to a few scattered round the outside of the cluster, and not, as in the common kind, forming one closely-packed head. The sprays sent have certainly a poor and unhappy look, but there is no error of culture answerable for the paucity of the large, sterile blooms, this feature being simply characteristic of the particular variety. We should advise you to obtain some good, young, vigorous plants from a reliable source, and if they are liberally treated, your trouble will, we think, be at an end. One thing worthy of note is that the variety Lindleyi is hardier than the common Hydrangea, so that if you plant out yours, they will as flowering shrubs probably give you far more satisfaction than they have done in pots.

FRUIT GARDEN.

TARRED FELT AND APPLES (*T. W. H.*).—Lime is the most effective deodoriser we have. We are sorry it was not powerful enough to destroy the smell of the tar. A thin layer of short lawn grass would be useful in helping to prevent the too rapid evaporation of moisture from the soil in which your Apple trees are growing. It must not be applied too thickly, or it will heat and become mildewed and nasty, and prevent air and rain from penetrating into the soil.

RASPBERRIES DISEASED (*H. T.*).—The white patches on the stems of the Raspberries sent are symptomatic of the disease due to Hendersonia rubi; but you do not send the lower part of the stem, where the disease is probably worse, so that we cannot say exactly whether this fungus or some other is at work. For spraying, Bordeaux mixture, at the strength usual for spraying Potatoes, should be used, but not within three weeks of picking the fruit. The old canes should be cut out completely as soon as possible, and the young ones sprayed with the Bordeaux mixture or with potassium sulphide, 1oz. to three gallons of water.

PEACH LEAVES DAMAGED (*J. H.*).—The leaves are thin, with no substance in them, showing that the trees are not in robust health, and therefore liable to an attack of disease when subjected to such strong bursts of sunshine as we have had lately. The damage has been caused by an attack of what is termed shot-hole fungus. The best remedy to apply is to scatter sulphur thickly over and under the leaves, leaving it on for a couple of days, shading the trees in the meanwhile, and afterwards syringing off the sulphur. Give the trees abundance of air night and day, syringing them morning and evening to encourage new and healthy growth.

MISCELLANEOUS.

CLASS AND ENTRY BOOKS (*W. J. P.*).—The most serviceable books are those prepared by the secretary. A book with quarto pages, ruled feint, should be used, and a line may be drawn down the left side of the page 1 inch from the edge. On the top line put the class number and its contents. To the left of the marginal line put the exhibitors' numbers, and to the right the exhibitors' names, but not their addresses. Thus we may have a headline as follows: "Class 24, four dishes hardy fruits, distinct kinds." Beneath we may read: "1, Chas. Jones; 5, Harry Wright; 6, W. J. Parr; 10, Tom Browne; 22, R. B. Pearce; 24, J. Adams." One sees at a glance who is in the class, and when the judges have made their awards, the secretary should go round the show and inscribe the awards in this book, which is called the Class Book. A second similar book, thumb indexed, is called the Entry Book. The entries are placed in alphabetical order, and each is entered thus: Entry No. 24, J. Adams, complete address, and beneath, arranged in a column, the number of classes in which he is competing. And thus one proceeds for each exhibitor. When the judges' decisions have been entered in the Class Book, transfer to the Entry Book, and it will be seen at a glance to how much prize-money each exhibitor is entitled.

NAMES OF PLANTS.—*L. S. B.*—Rose Mme. Alfred Carrière.——*Miss K. Denison.*—The Carnation is John Pope, a good old border sort, but very much improved on now.——*E. D.*—The Roses are: 2, Daniel Lacombe; 3, Mme. Jean Dupuy; 4, Gloire de Exposition de Bruxelles. ——*Hampshire R.*—Senecio Jacobæa. It is a perennial, and reproduces itself from seed. The best way to get rid of it is to dig it up.——*Ignoramus.*—1, The Campanula is a seedling form of C. rotundifolia; 2, the Viola was quite withered up when it reached us. Send again packed in damp moss.——*W. G.*—1, Dianthus deltoides albus; 2, D. plumarius variety; 3, D. Waldsteinii; 4, D. superbus; 5, Sedum obtusatum; 6, S. spathulifolium.——*G. R., Somerset.*—Acanthus mollis.——*A. B. C.*—2, Spiræa canescens; 3, Verbascum nigrum; 4, Salisburia adiantifolia (Ginkgo biloba), Maiden-hair Tree. 5, Sedum roseum.——*G. Britnell.*—1, Euphrasia officinalis; 2, Spiræa Ulmaria; 3, Teucrium Scorodonia; 4, Hypericum pulchrum; 5, Galium verum; 6, Calamintha Clinopodium; 7, Senecio Jacobæa; 8, Dactylis glomerata variegata; 9, Centaurea nigra; 10, Potentilla Tormentilla.

SOCIETIES.

NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).

THE exhibition of this society, held in the Royal Horticultural Hall on July 18, was a most interesting display for lovers of the border Carnation and Picotee. There was a good number of entries, and the flowers shown were of exceptionally good quality, there being a fair attendance during the afternoon.

DIVISION I.—FLOWERS SHOWN ON CARDS.

The first prize for twelve blooms, bizarrea and flakes, dissimilar varieties, was secured by Mr. James Douglas, Edenside, Great Bookham, Surrey, who had a most effective set, consisting of Recorder, Master Fred, Sarah Payne, Supreme, Gordon Lewis, J. S. Hedderley, George Melville, R. Houlgrave (the premier scarlet bizarre), Kiobe, Torchlight, Meteor and Tomtit. Messrs. C. Blick, A. R. Brown, Limited, and H. Mathias followed in order of merit.

For twelve selfs, dissimilar, Mr. J. Douglas again led, the winning varieties being Bookham White, May Day, Miss Willmott, Bookham Yellow, Cardinal, Mrs. George Marshall, Maud Allen, Mrs. Guy Sebright, Basuto, Miss Shiffner, Robert Bruce and Ruby. Mr. H. Mathias followed with a nice clean set as second, Messrs. A. R. Brown, Limited, third, and Mr. Charles Blick fourth.

Mr. Charles Blick secured leading honours for twelve fancies, dissimilar, Mr. H. Mathias second, Messrs. A. R. Brown third, and Mr. J. Douglas fourth, the latter winning a premier with Linkman.

For twelve Picotee blooms, white ground, dissimilar, Mr. J. Douglas took first, Mr. C. Blick second and premier with Merlita, and Mr. H. Mathias third.

For twelve Picotee blooms, yellow ground, dissimilar, Mr. Charles Blick secured first and premier with Her Majesty, Mr. James Douglas second, and Mr. H. Mathias third.

DIVISION I.—FLOWERS SHOWN AS GROWN.

In the class for four varieties of Carnation blooms, selfs, to be shown in vases, three blooms of each variety, with Carnation foliage, Mr. J. Douglas secured first, Mr. C. Blick second, Mr. S. J. Payne third, and Mr. H. Lakeman fourth.

For a similar number of fancies, other than white ground, Mr. J. Douglas again led. Mr. H. Mathias was second, Mr. C. Blick third, and Messrs. A. R. Brown fourth.

In the class for white-ground fancies, Mr. J. Douglas was first, Mr. C. Blick second, and Mr. S. J. Payne third.

For four varieties of Picotee blooms, yellow ground, three blooms of each variety, Mr. J. Douglas came first, Mr. C. Blick second, Mr. S. J. Payne third, and Mr. H. Lakeman fourth.

Some very interesting stands were provided in the class for nine distinct varieties, including selfs, fancies and yellow-ground Picotees, in separate vases, three blooms of each variety, Mr. J. Douglas coming first, Mr. H. Mathias second, Mr. H. Lakeman third, and Mr. C. Blick fourth. It should be noted that the trade growers can only show in Division I.

DIVISION II.—FLOWERS SHOWN ON CARDS.

For six Carnation blooms, bizarres and flakes, dissimilar, Mr. H. R. Taylor, Cheam, secured the leading award, Mr. J. Fairlie, Acton, coming second and securing a premier with Gordon Lewis.

In the class for six Carnation blooms, selfs, Mr. H. R. Taylor was again first, Mr. C. A. Linzee, Alresford, taking second and premier with Mrs. George Marshall.

For six Carnation blooms, fancies, dissimilar, Mr. H. R. Taylor again led, Mr. J. A. Font, Winchester, coming second.

In the class for six Picotee blooms, white ground, dissimilar, Mr. J. J. Keen obtained first place, and Mr. H. R. Taylor second and a premier with the variety John Smith.

For six yellow-ground Picotee blooms, dissimilar, Mr. H. R. Taylor was awarded first and a premier for Eclipse.

DIVISION II.—FLOWERS SHOWN AS GROWN.

For three blooms, one variety, pink or rose selfs, Mr. W. H. Parton obtained first, Miss E. Shiffner second, Mr. R. Morton third, and Mr. J. A. Font fourth.

For three blooms, one variety, white selfs, Mr. J. Fairlie secured first, Mr. R. Morton second, and Mr. E. J. Price third.

For three blooms, dark red or maroon selfs, Mr. C. A. Linzee secured first, Mr. W. H. Parton second, and Mr. F. Pitcher, Maidenhead, third.

Miss Shiffner secured the leading position for three blooms of yellow selfs, and Mr. H. R. Taylor came second.

Mr. R. Morton, Woodside Park, N., occupied the premier place with three red or scarlet selfs, followed by Miss Shiffner.

The following exhibitors secured first prizes for the respective classes: Mr. R. Morton for three yellow-ground Picotees; Mr. H. W. Frostick for three buff or terra-cotta selfs; Mr. J. Fairlie for three selfs; Mr. J. A. Font for three yellow or buff ground fancies; and Mr. H. W. Frostick for three fancies other than yellow, buff, or white ground.

OPEN TO AMATEURS ONLY.

The Martin Smith Memorial Challenge Cup class was strongly contested, Mr. R. Morton, Woodside Park, N., again winning the cup with a splendid set of blooms. The varieties shown were Donald McDonald, Cardinal, Santa Claus, Basuto, John Ruskin, Skirmisher, Lord Steyne, Linkman, Onward, Bookham White, Margaret Lennox and Miss Willmott. Mr. W. H. Parton, Moseley, came second, and Mr. J. Fairlie, Acton, third.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices. 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Removing Seed-Pods from Plants.—To obtain as much bloom as possible from plants it is very important to remove all seed-pods as soon as they appear. By doing so the majority of plants, particularly annuals, will continue to flower for a very much longer period than they would if allowed to develop their seeds.

Dividing Pæonias.—As soon as the foliage of the plants is getting dry, it will be a suitable time to divide them where necessary. By doing so now the succulent roots will suffer less than if disturbed in the autumn or spring. It is advisable to select dull weather for the operation, if possible, although this is not absolutely necessary, but an occasional watering will be found very beneficial.

Honour for Viscountess Wolseley. — The Honorary Freedom of the Gardeners' Company was presented to Viscountess Wolseley on Monday of last week as an appreciation of her work in the interests of gardening. The presentation was made by the Lord Mayor of London. At the dinner held afterwards, the Master of the Gardeners' Company stated that Lady Wolseley had created a new profession for women.

An Interesting Bellflower.—One of the most interesting of the Campanulas or Bellflowers just now is C. lanata, a plant that does not appear to be at all well known. The lower shoots press closely up to the rockwork against which it is planted, while the main shoot grows erect. The flowers are large, creamy white in colour, and are now open. We noticed some particularly good plants in the rock garden at Kew a few days ago.

Fruit and Potato Crops in the Bordeaux District.—We are informed by the Board of Agriculture that a report received from the Bordeaux Consular District states that Plums are not likely to be very plentiful, the fruits having dropped badly during stoning. Marbat Walnuts are expected to give a moderate crop, and the Carnes variety a medium crop, but the well-known Grenoble Walnut is likely to be short. Potatoes are likely to yield well, as, up to the present, disease has not appeared.

A Pretty New Zealand Shrub.—In Plagianthus Lyallii we possess a valuable deciduous flowering shrub belonging to the Mallow family. Planted in the open border, it forms a large bush 7 feet to 8 feet or more in height. The flowers are freely produced in clusters in the axils of the leaves. They are 1½ inches or more across, pure white and slightly cup-shaped. The flowering season is July. Coming from New Zealand, those who are acquainted with the character of the flora know that sometimes, during very severe winters, trees and shrubs suffer considerable damage. For this reason, in the colder parts of the country, Plagianthus Lyallii is planted against a sunny south wall. At Kew a few years ago a bush growing in the open was cut to the ground; the following year, however, vigorous young shoots pushed up from the base, and it is now a large, spreading bush 8 feet in height and flowering profusely. Layering forms the readiest means of increase.

The Irish Heath.—In the Heath garden just now this plant, Dahœcia polifolia, is one of the most conspicuous features, its erect shoots, clothed with dancing, balloon-shaped flowers, attracting much attention. At Kew they have it grouped in good-sized masses, together with the white-flowered variety appropriately named alba. Another very charming variety at Kew is named D. p. erecta atropurpurea. This is rather more erect than the type, and has large flowers of rich rosy purple hue. These Irish Heaths are amenable to the same treatment as the hardy Heaths proper.

Transplanting the Madonna Lily.—Anyone desirous of transplanting the beautiful Madonna Lily, Lilium candidum, will find the present time most suitable. Seldom are the plants seen to better advantage than in a cottage garden where they are left undisturbed for years, which goes to prove that they should only be taken up when absolutely necessary through overcrowding. Then the largest bulbs should be replanted and the smaller ones grown for a year or two in the nursery. If the plants are suffering from the disease which often attacks them, the bulbs ought to be freely dusted with sulphur before they are replanted.

Nemesias for Spring Flowering.—These lovely South African flowers are much appreciated in the conservatory or greenhouse in springtime. The plants are easily grown in pots from seeds sown in August. Nemesia strumosa nana compacta and N. s. Suttonii, both producing mixed colours, are suitable varieties for pot culture. If the seeds are sown in boxes or pans, the resultant seedlings must be transplanted in pots while quite small, five in a 6½-inch pot being sufficient; or they may be sown in the larger pots and surplus plants drawn out, the after-treatment being similar to that given to pot Mignonette.

A Perpetual-flowering Veronica. — Because occasionally, when planted in exposed positions, the shrubby New Zealand Veronicas suffer during severe frosts, many horticulturists neglect them. Suitable positions can be found for them in most gardens—a shrubbery border with a south or west exposure, or similar aspects sheltered by a wall or fence. Even if the plants are occasionally damaged or killed outright when growing in the open, they can soon be replaced by young plants grown from cuttings, which are as easy to root as Fuchsias. One variety in particular, named Autumn Beauty, may be truly described as a perpetual-flowering Veronica, for it is seldom, if ever, without a few flowers, while during summer and autumn the bushes are laden with blossoms. Growing and flowering freely from 12 inches in height upwards, the plants are covered with small, dense racemes of rich purple flowers about two inches in length.

CORRESPONDENCE.

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

Are Ten-Week Stocks Dying Out?—In "Notes of the Week," issue July 26, the reference to these Stocks is very timely. Everything should be done to encourage cultivators to grow them still more than they have been in the past. Undoubtedly the reasons advanced in the note referred to are the true ones, as plants of the Intermediate section do grow larger and branch more freely. The coarser and more branching specimens of the Ten-week section generally bear single flowers, whereas the dwarfer ones bear double flowers and usually form one very handsome spike. The time needed in which to grow good Ten-week Stocks is not unduly long. Perhaps committees of horticultural societies will note the references to this subject and in future provide two classes, one for Ten-week Stocks only.—G. G.

Rose Gustave Regis as a Large Bush.—The enclosed photograph of Rose Gustave Regis growing in a suburban garden may be of interest to some of your readers. In my opinion it is the best of the old garden Roses for suburban districts, in spite of the fact that it does not flower much in the autumn. The plant illustrated stands over five feet high, and a week after the photograph was taken scarcely a leaf could be seen for flowers. In the bud stage the colour is soft nankeen yellow, the flowers opening to creamy white. The buds, which are long and of exquisite shape, are excellent for button-holes. I do not understand why more of such Roses as Grüss an Teplitz, Florence Haswell Veitch and J. B. Clark are not grown as large, free bushes.—A. B. ESSEX.

ROSE GUSTAVE REGIS AS A LARGE BUSH. THIS PLANT WAS OVER FIVE FEET HIGH.

Pruning Rose La France.—I quite agree with the note on this subject on page 371, issue July 26, above the well-known initials "G. G." Several years ago a number of correspondents wrote calling attention to the merits of unpruned Rose bushes. At that time a note from my pen described a specimen of Rose La France which had received no pruning for years and carried a large quantity of splendid flowers. La France is often disappointing when hard pruned in spring. Where this is so I would advise the practice of thinning out the weak shoots now, and cutting off the soft tips in March. Many other Roses might be treated in this way with advantage. There is a row of Rose Perle d'Or not far from where I am writing, the individual bushes of which are from 4 feet to 5 feet in height, and they have been covered with bloom and present a fine effect in the garden. These bushes are allowed to grow at will, the only pruning they receive being the removal of dead wood and dead flowers. Where space permits (and especially in the wild garden) unpruned or lightly-pruned Roses should be given a trial. Many of the ramblers would be more satisfactory with less pruning and less formal training. A word of caution, however: Do not neglect to give a good rooting medium for Roses, and make every attempt to keep down insect pests.—COLIN RUSE, 35, *West Road, Saffron Walden, Essex.*

White Rose Ointment.—In reference to the making of ointment from Rose Blanche Belgique, mentioned in your issue for July 12, page 346, I have just received the following recipe, which I send on to you: "The Roses Pettles must be dry or the Ointment will go Mieildew, Homemade Lard: or Frest Butter from the Chure with aut Salt in it then Simmer in an Eaithen Pipken (Miss Anne have one) Put as Meney Rose leeves in as you can and simmer Slawly untill it begen to turne Brawn Strain thraugh a Peace of Museland. I shuld think Enamel Sauspan would do as well. I remember the Rose leaves use to be Cramed In, when the leaves use to turne Brawn it was read to be Strain. the Ointment use to be white." The ointment was used for chapped faces and hands in winter, and on further enquiry I found that a little Friar's balsam was sometimes added to the ointment, and was told "the dry Rose petals was saved till we killed a pig," and "the ointment was kep' in china pots with china lids." The red earthenware pipkin is glazed inside and has a quaint handle. It is an antique one given me by another villager "because she knew Miss Anne liked all those sort of old things." I did not know its particular use till the grey-haired writer of the preceding recipe said, "I see you've got an old ointment pipkin, Miss Anne, like my mother used to make her white Rose ointment in years a-gone, and you've got the old ointment Roses in your garden too. I ain't seen any of them since I was a child." I do not know where the Rose is now to be obtained. The bushes in my garden are evidently extremely old, and I have hitherto failed to root any cuttings from them, although I have often tried to do so, as all my friends who see and smell them desire to have a bush of them.—ANNE AMATEUR.

Beautiful Floral Combinations.—I think it may be of interest to those of your readers who are constantly on the look-out for new colour-schemes to instance the following combinations which I have noticed with especial pleasure in my garden during the present season. Masses of Malva moschata alba alternating with great drifts of Campanula rotundifolia (or one of its varieties) afforded a spectacle of rare and delicate beauty. The pure scarlet of Lychnis chalcedonica is a perfect foil for the equally pure white of Lilium candidum. Lastly, the, to my mind, somewhat acrid pink of Rose Dorothy Perkins is pleasingly relieved by breadths of Viola cornuta growing beneath. Too often the flowers suggested for combination disappoint us by their failure to blossom at the same time. I think no difficulty will be experienced in the case of those which I mention. It is, in my view, essential to the success of colour-schemes that considerable quantities of specimens of one species should be used, and I have purposely refrained from instancing harmonies afforded by plants which from their rarity cannot be employed so lavishly as the nature of the case demands.—RAYMOND E. NEGUS, *Walton-on-Thames.*

—— A pretty floral combination I saw recently was produced by Shirley Poppies and blue Cornflowers mixed together. The Poppies, unfortunately, do not last, but while they did, the mixture was exceedingly telling and produced at an expense of twopence for the seeds. Another equally cheap combination is produced by Asperula setosa and Linaria aureo-reticulata or L. purpurea, but the first Linaria is the better of the two. An annual I am very fond of, but scarcely ever to be seen, is that known as Lobel's Catchfly, the botanist's Silene Armeria. I have an Antirrhinum exactly the same shade of colour which I am hoping to use in combination with the former, its squat growth calling for a spiral-growing plant to get the most out of it. While on the question of combinations I may mention one formed by a group of Crucianella stylosa running through and intermixing with one of Nepeta Mussinii on a rockery. The first impulse was to separate them; but, dirty as the Crucianella looks, the colour blends very nicely with the Nepeta—another instance of the unexpected in colour combinations.—R. P. BROTHERSTON.

Musk Losing Its Scent.—Respecting the loss of scent in Musk, to which there have been several references lately, I dare not affirm that it smells less Musky than in the past, because I do not recollect the scent ever to have been strong. And it is well to remember that the perfume of flowers varies to a very considerable degree. In some conditions of the atmosphere scent is imperceptible, and this is very noticeable with Roses, Sweet Briar especially, and with common Primroses, the perfume of which on a warm, almost sultry day pervades the air to such an extent that we seem to draw it in with our breath. How diverse in the strength of its perfume, too, is a field of Beans! And so with plants which smell badly. Some days one cannot pass a clump of Crown Imperials without being made uncomfortably aware of its presence by its foxy smell, which under other atmospheric conditions is not apparent at all. Last of all, we cannot leave out of account the state of the individual's organ of smell, which without a doubt alters not only with age, but with the condition of one's health. On the whole I should, therefore, be chary about saying Musk is Musk no longer.

Some Good Primulas.—I recently had the pleasure of spending an hour or two along with Dr. McWatt in his garden at Morelands, Duns. It was too late for Primulas in general, but I saw the old and fine P. sikkimensis in fine condition, and a nice hybrid between pulverulenta and cockburniana, with the flowers like the latter and habit and pulverulence of the former. It is named Lissadell Hybrid. The last named, it may be added, is perennial in the Duns locality. Dr. McWatt finds a difficulty with common vulgaris in its double forms, a difficulty shared with others. All the same, a large border is occupied by a full collection of sorts not long broken up. One way the difficulties of Primula cultivation are lessened is by plunging the pots in sand kept wet to a good depth. There is space in the garden for a great variety of plants other than Primulas, at the expense perhaps of material for the cook, and flowers, consequently, are everywhere. Quite a good collection of flowering and other shrubs is also cultivated, a huge specimen of a Phyllostachys demonstrating the hardiness of the Bamboo tribe in this cold district. A new rockery is in course of being furnished, and here, too, the ubiquitous Primulas were conspicuous. But Dr. McWatt is by no means prejudiced in his floral tastes, and works on Violas, Foxgloves and Delphiniums with the prescience of the cultured and observant amateur.—R. P. Brotherston.

FORTHCOMING EVENTS.

August 11.—United Horticultural Benefit and Provident Society's Meeting.

August 12.—Royal Horticultural Society's Exhibition. Flower Show at Clay Cross.

August 13.—Flower Shows at Carlisle (two days), Exmouth (two days) and Capel. East Anglian Horticultural Club's Meeting.

August 14.—Flower Shows at Taunton Deane, Merthyr Tydvil, Abingdon and Oxford.

August 16.—Shows at Ambergate, Seascale and Lake District.

August 18.—Shows at Warkworth and Pitsmoor (Sheffield).

August 20.—Shows at Shrewsbury (two days) and Wallingford. Banffshire, West Cumberland and Royal Jersey Horticultural Society's Shows.

August 21.—Flower Show at Aberdeen (two days).

THE GREENHOUSE.

THE AUTUMN PROPAGATION OF FUCHSIAS.

If cuttings are inserted now, nearly a whole year is gained in the building up of fine plants suitable for pot culture or for the furnishing of the flower garden in the summer-time. I have propagated hundreds of cuttings at this season of the year, and they have grown into very nice plants by the following spring. Fuchsia plants are generally gradually dried off as the autumn passes. They are then stored in a place just safe from frost until the early part of the following spring, when the old ball of soil is reduced in size, the branches are pruned back as required, and the repotting is done in smaller pots. In dealing with the autumn-struck cuttings, the cultivator must keep them growing steadily throughout the winter months, simply repotting them in February or March as they need more rooting space. The growth made in the winter will not be great, but it is an advantage, and the autumn-struck plants will be one-third larger at the end of the following summer than those propagated in the spring of the same year.

Select strong young shoots growing near the base of the old plant; they make the best cuttings. If there are flower-buds on any of the shoots, remove them. Very few will appear on them afterwards during the autumn; any that form must be pinched off. Each cutting should be about four inches long. Cut off the two lower leaves and sever the stem just below a joint. Use a light, sandy compost, one made of loam and leaf-soil in equal proportions, with a small quantity of old mortar and pounded brick added, and sufficient coarse sand to render it all very porous. This complete porosity is necessary, as the plants will need occasional watering during the winter-time. Place the pots in a frame turned towards the north, and lightly shade the glass when the sun shines brightly. When first inserted, give the cuttings a good watering, afterwards maintaining the soil in a medium state of moisture. Occasional syringings on fine days will revive the foliage a great deal, and will do more good than a watering of the soil in the pots. If the soil is kept in a constantly saturated condition, the cuttings will not thrive well in it, and many leaves will be lost. If the cuttings are inserted round the edges of 5-inch and 6½-inch pots, they will be easily wintered on shelves in a warm greenhouse or in a heated frame. Avon.

SOME INTERESTING PLANTS IN FLOWER.

Where they have not been grown very warmly, some of the finest gesneraceous plants, such as the Achimenes, Gloxinias and Streptocarpuses, will be just now at their best. There is a great tendency to regard these different subjects as fit only for a warm structure; indeed, Gloxinias are often referred to as stove plants.

Gloxinias.—Where they are needed early, it is necessary to subject them to a considerable amount of heat; but in some cases at least their blossoms will be more appreciated during the latter part of the summer than earlier in the season. Given one year old tubers, Gloxinias may be grown under much the same conditions as Begonias; that is to say, they may be started in the spring in a gentle heat, and by the end of May artificial heat can be readily dispensed with. From that time a cold frame is the best place for the plants, shifting them into their flowering pots as they need it. Gloxinias and, in fact, all gesneraceous plants are well served by a liberal use of good leaf-mould in the potting compost. Should the weather be cold after the plants are removed to the frame, it will be an advantage to shut the lights up early in order to husband the sun-heat. Grown coolly in this way, the leaves are of a better substance than they are in a warm and much-shaded structure, while insect pests give scarcely any trouble. The flower-stems, too, are more sturdy, so that less support is needed. Of course, where blossoms are required early, this cool treatment cannot be recommended; but for the production of flowers during the latter part of July and in August this is by far the better plan.

Achimenes.—The numerous varieties of these also form a charming feature in the greenhouse at this season, showing as they do a wide range of colour and a great profusion of bloom. Despite their desirable qualities, they can scarcely be regarded as popular plants at the present time, probably to a certain extent owing to the fact that they are of little service for cutting, a standard by which flowering plants are so generally judged nowadays. Still, for hanging baskets, to be at their best during the summer, there are very few classes of plants to equal the Achimenes, as when suspended the branches acquire a semi-pendulous habit of growth, which shows off the butterfly-like flowers to the greatest advantage. In commencing the culture of Achimenes, the best plan is early in the year to obtain a good selection of the dormant tubercles, when they can be sent by post for a few pence. These should be obtained from a reliable source, so that the collection may be as varied as possible. The tubercles may be potted three in a small pot, and when sufficiently advanced should, without disturbing the roots, be shifted into larger pots. Put several together into deep pans to make large specimens, or plant in baskets for hanging up. Potted about the beginning of March and placed in a temperature of 50° to 65°, they will soon grow away freely.

Streptocarpuses.—While Achimenes have declined in popular favour, Streptocarpuses have in the same time made great headway; indeed, the present garden forms are of quite recent origin. This class of plants is remarkable for its comparatively large, showy blossoms, the great profusion in which they are borne, and for the wide diversity in colour that now exists among them. Few flowering plants are the equal of the Streptocarpuses for growing in a structure where they get a good deal of shade. Streptocarpuses may be readily increased by seed, which, sown early in the year, will produce plants that will flower in the course of the season. Their period of usefulness is then by some considered to be over, but they may with advantage be kept and grown on for another year. They should during the winter be kept in a temperature of 50° to 60°, giving just enough water to keep the roots in good condition, as the Streptocarpus does not form tubers in the same way as the Gloxinia. The plants so wintered will, if shifted into 5-inch pots in early spring, grow away freely and flower well.

Gesneras, too, are lovely flowers, the earliest of which are now open. It is difficult to know, at least in some cases, which to admire the most—the beautiful marbled leaves or the spikes of drooping, tubular-shaped blossoms. There is a

wide range of colour in the flowers, but those of an orange tint, such as in the variety Orange King, which was given an award of merit three years ago, gain, as a rule, the most admirers. H. P.

DUTCH HYACINTHS TO FLOWER AT CHRISTMAS.

AN IMPORTANT DISCOVERY.

CARNATIONS and Lily of the Valley have long since "looped the loop," or done the equivalent acrobatic performance which in the floral world corresponds to it. Now Dutch Hyacinths are trying their hand to see what they can do. For the last year or two there has been a great shortage in the supply of Roman Hyacinths from the South of France. It was the Dutchman's opportunity.

In the course of my wanderings in Holland (for *to me* Holland is a word confined to the gorgeously-carpeted land where bulbs grow, and where, in the true Dutch fashion of things being contrary to the ordinary, the carpet is only laid down in spring and cleaned for the rest of the year), I say, in the course of my wanderings I found myself in the office of the most hospitable firm of Messrs. R. Van der Schoot and Sons of Hillegom. Prefatory to a look at the Tulips I was shown some things of great interest. One of them was the photograph which is reproduced herewith. "Come, come," I said, "this is a bit of good. *All this lot* in bloom on December 15. Tell that to Mr. Jones" (the aforesaid bulb representative of one of our great horticultural firms was with me) However, I spoke too soon. A photograph is not the same as a newspaper. What it contains *is* correct. All these were in flower when it said. Who the inspired genius was who first hit upon the plan of prematurely lifting and then artificially drying and baking the bulbs I do not know (Was it Mr. Dames of Lisse?), but this much I do know. Thanks to some man and his followers, Hyacinths can be so prepared or advanced that with ordinary greenhouse treatment they can be had in bloom in December. Lady Derby, L'Innocence, Yellow Hammer, Schotel, La Tour d'Auvergne, Grand Vedette, Grand Monarque, General Pelissier, Linnæus, Grand Vainquer, Cornelia and Distinction lend themselves especially to this treatment. The gain is great; not only a whiff of spring, but a peep of spring in December.

I hear some English firms are taking it up. For one, I believe the Busy "Bees" of Liverpool are very sweet upon this process and want to make it known to their British customers. I always have had a warm corner in my heart for this little people (A. K. B., the King Bee, must be 6 feet or over!) ever since they put the photograph of an exquisite bowl of Feathered Hyacinths, which in the flesh had done duty on my dining-room table and as a picture in the pages of THE GARDEN, in their catalogue. There must be a "Bee" everywhere, in Holland as well as in China. They gather together the good things of the world, and then dispense them from Sealand or Mill Street. Messrs. Barr also have some bulbs.

Now for the practical steps to be taken if *we* want these advanced Hyacinths in December: (1) Buy as soon as possible; the varieties on my list are good ones for the purpose. (2) Be sure you get these specially-prepared bulbs. (3) Pot before September 10 at the very latest. (4) Avoid like poison, at any period of their growth, any bottom-heat. (5) Start in the dark as usual, but in a comfortable atmosphere. (6) Keep them nice and warm when growing. (7) When I tried them I kept them too cool, so I am going to find out more about the exact temperature they like, and with the Editor's kind permission a note will appear on the subject either in next week's issue or the one following. JOSEPH JACOB.

[SPECIALLY-TREATED DUTCH HYACINTHS FLOWERING ON DECEMBER 15 OF LAST YEAR. THESE WILL PROBABLY TAKE THE PLACE OF ROMAN HYACINTHS.]

Few people outside the Dutch growers themselves realise the vast importance of the Hyacinth trade to the capitalists and bulb-farmers of the country. The sales for a long time have not been what they were in former days. The Cinderella of the bulb fields of a generation back has become the Princess, and the proud sisters of old (Hyacinths and early Tulips) have had their "noses put out of joint." A radical operation, or rather a series of smaller operations, was necessary to try to effect a cure—prizes at the big Royal Horticultural Society's Forced Bulb Show; a tardy acceptance of the "miniature" Hyacinth; and lastly, among the up-to-date men, such as Tubergen and Van der Schoot, the "advanced" cure.

HIPPEASTRUMS FROM SEED.

WHERE it is desired to raise Hippeastrums from seed, those that flowered at about the normal season will by now be ripe or nearly so. The question sometimes arises whether it is better to sow the seed at once or to keep it until the spring. My experience is that, providing there is a structure with a gentle heat where a temperature of 50° to 60° can be maintained during the winter, the seed had better be sown with as little delay as possible. Pans about two inches deep are very convenient for its reception. These should be clean and effectually drained. A mixture of loam, leaf-mould and sand passed through a sieve with a one-third of an inch mesh is very suitable for the seed, some of the roughest portions of the compost being placed immediately over the crocks. The surface of the soil being pressed down moderately firm and made level, the seed should be sown thereon and covered with about a quarter of an inch of soil. Gently watered, the seed germinates quickly, so that by the end of the summer or in early autumn the seedlings may be potted singly in small pots. In this way they will by February be ready to shift into pots 4 inches in diameter. H.

THE FLOWER GARDEN.

INTERMEDIATE, EAST LOTHIAN AND BROMPTON STOCKS.

THESE are useful subjects for either beds, borders or pots, while they are highly prized as cut flowers, both for their exquisite colours and pleasing fragrance. The Ten-week Stock is a well-known and popular plant, and, where occasional sowings are made, a grand display is kept up for several months. It is, however, to the Intermediate, East Lothian and Brompton Stocks that I would call particular attention at the present time. They may be had in separate colours, such as crimson, white, scarlet and purple, or, for an amateur, a good mixed strain would give, perhaps, the greater satisfaction, and, if bought from a reliable firm, a large percentage of doubles, bright in colour, would be secured.

The East Lothians are dwarf and compact in habit, producing immense spikes of bloom somewhat resembling the Hyacinth. The Intermediates are very floriferous, and are employed on a large scale for pot work, quantities being sent to Covent Garden and other markets during the spring months. The Bromptons form huge bushes when well grown, and possess a robust constitution. Although it has been stated that the plants quoted above thrive best in the cooler parts of these islands, good results can be obtained in the warmer regions, especially if a full south aspect is not chosen. Seeds may be sown either in June and July or in February, the former for flowering the following spring and summer, and the latter for autumn flowering. If sown in February, a little heat is necessary, and the plants will require a gradual hardening off prior to planting in the open ground.

The usual plan is to sow in June, July, or early August in any part of the garden which happens to be vacant, but the soil must be made fine, and, if at all dry, a good soaking with water is advisable. When they have made three or four leaves they should be transplanted into a cold frame or in small pots, so that the frost can be excluded during the winter; and in March they may be removed to their permanent quarters. In some winters they will live out in the open ground, but it is necessary for the soil to be well drained, for I think excessive moisture at the root is more injurious than frost, providing the plants are fairly dry at the base.

Stocks succeed in almost any garden, but they are worth taking a little trouble with, and, wherever possible, the ground should be deeply dug and liberally manured the previous autumn. Once planted, further attention is hardly needed, except keeping the surface stirred about with the hoe; and if the weather should prove exceptionally dry, an occasional watering with weak liquid manure will prove of considerable benefit. S.

RAISING PANSIES FROM SEEDS.

The Pansy is a grand border plant for the amateur gardener to grow. In small gardens, where large and especially tall-growing subjects are out of place, or seem to be, dwarf ones, such as Pansies and Violas, look very charming indeed. These plants are equally beautiful and suitable for growing in the largest flower garden, too. They are much favoured in Northern gardens, but I have seen as fine displays in Southern gardens. It is a matter of good culture, mainly. In one case whole beds were filled with Pansies in as good condition as any I have ever seen, both as regards health of plant, quantity and quality of flower. The soil was very sandy. Many seeds are sown in shallow boxes. I certainly do not favour these, as the soil in them so soon dries up, and, in order to maintain it in a moist state, very frequent watering is necessary. Only in exceptional instances should the seedlings be raised in boxes. It is much better to sow the seeds in the open border, selecting one in a cool position. There is ample space in the open border, so the seeds should be sown very thinly indeed. When the young seedlings have plenty of space to develop, the seed leaves grow to a large size, roots are formed freely and the rough leaves grow strongly. The plants are thus given a good chance in their early stages of growth, and it is a greater pleasure to transplant them to nursery beds than the puny specimens grown overcrowded in a small box. Whether planted in their flowering beds in the autumn or retained in prepared nursery beds until spring, one transplanting in a young stage will be sufficient. Drawn-up, weakly plants bear small flowers on long, slender stems; the dwarf, border-raised seedlings have huge, well-coloured ones on short, stout stems. Anyone may raise Pansy plants and grow them fairly well with ordinary care, but much care must be bestowed on them if the very best results are to be obtained. When in their summer quarters surface mulches must be put on and faded flowers regularly removed; then the flowering season will be prolonged. Neglected plants quickly degenerate. G. G

CLOVER IN LAWNS.

I have read with interest the references in recent numbers of your paper to the subject of Clover in lawns, and I venture to make some remarks based on the experience of an agriculturist rather than that of a gardener. Any of your readers who chance to follow the transactions of the various agricultural societies and colleges doubtless know that a vast amount of experimental work is done to discover the best means of renovating pastures. The subject is full of difficulty, but, broadly speaking, success or failure depends on whether one is able or not to produce a free growth of white Clover. Now, no gardener under any circumstances wishes Clover on a tennis lawn. No gardener, again, who has a first-class lawn wishes Clover. Neither does any gardener who has a tolerably good lawn, which he wishes to improve, desire Clover. How to obtain that end is well known. Every spring give a light dressing of nitrogenous manure.

But there are many gardeners who have thoroughly bad lawns which they wish to improve. To these I venture to commend the beneficial effect of white Clover as a slow, but as the only sure, means of bringing on the finer grasses, which in a lawn, just as in a pasture, constitute the test of excellence. If nitrogenous manures are applied right away to a poor lawn, the coarse, healthy grasses will benefit at once, while the finer grasses, on account of their starved, unhealthy condition, will benefit too late to escape being crowded out.

I may perhaps be allowed to indicate the best-known methods of encouraging Clover as well as the finer grasses. In the first place, those materials must be supplied which are essential to both Clover and grass. These are lime and phosphate. Basic slag contains both, and is a truly marvellous manure. Unfortunately, it is also the trickiest of all fertilisers. It works miracles on some soils, while on others it is absolutely worthless. Unless the gardener knows that slag suits his land, he should not waste time on experiments, but should apply lime in the form of slaked lime-shells, and phosphate in the form of the most finely-ground bone-flour he can get. The standard dressing of bone-flour which is considered payable in agriculture is half a ton per acre (equal to a quarter of a pound per square yard). This will endure for from six to ten years, and must be applied in autumn. Of lime, double the above dressing should be given, also in autumn. On heavy land this may endure for ten years; on light land for very much less.

In the second place, the gardener will seek to encourage Clover. Now, Clover hates nitrogen and loves potash. One will, therefore, avoid the former and give potash. Muriate of potash is the easiest to apply, and the dressing is 10z. per yard, which is enough for very many years. All these manures (lime, bone-flour and potash) may be mixed and applied together, and all can be bought in small quantities from a first-class firm which caters for retail trade. I may warn the reader that both lime and bone-flour are very powdery, and that the work of application is not exactly tidy. There is this to be said, however, that the dressing is lasting, in contradistinction to nitrogenous applications, which endure for one season only. Landowner.

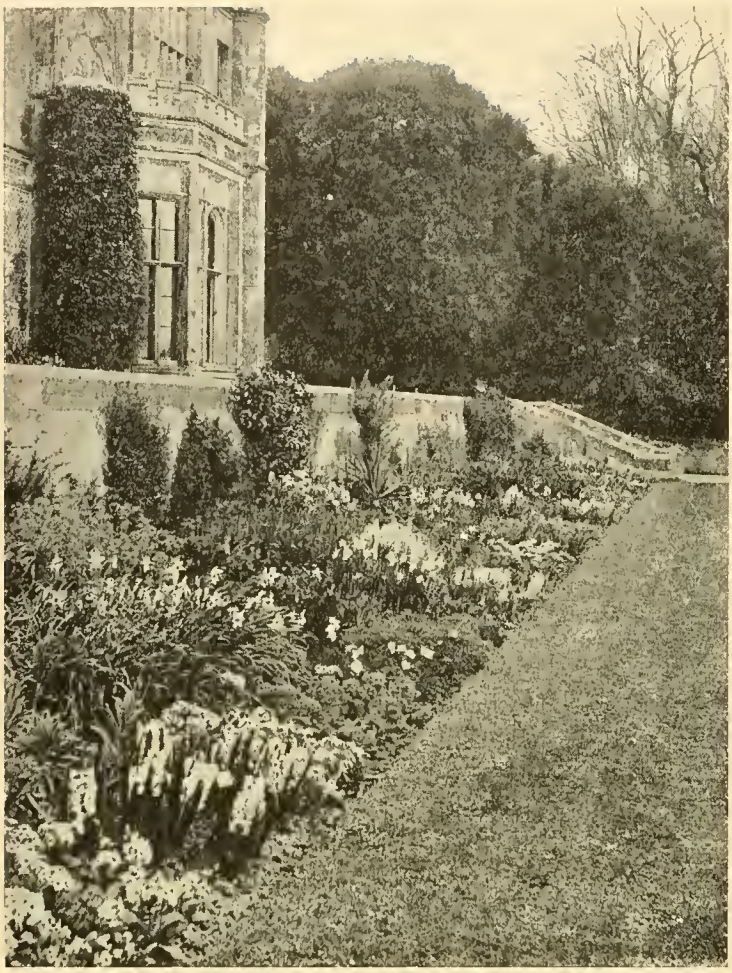
GARDENS OF TO-DAY.

TREGOTHNAN, CORNWALL.

SITUATED about five miles from the ancient town of Truro, and not far from the South Coast, is Tregothnan, the beautiful seat of Lord Falmouth, by whose kind permission we are enabled to place before our readers a few particulars of the interesting, and in many ways unique, gardens there. It was during the early days of April when we were privileged to visit Tregothnan, a time when the gardens of Cornwall are usually regarded as of the greatest interest, because *the* feature of most, and Tregothnan in particular, is the rich collection of choice flowering and coniferous trees and shrubs, which in less-favoured parts of the British Isles need the protection of a glass-house to rear them successfully. In writing of Cornish gardens it is necessary to make this point quite clear.

The Rhododendrons are a great feature in many Cornish gardens, where their flowers usually open at least a month in advance of those of the same varieties near London. At Tregothnan several of the walks, and also the main carriage drive, are bordered with enormous Rhododendrons, the massive trunks of many testifying to their great age and the genial climate of the district. In one part of the grounds is a superb plant of Rhododendron Falconeri, a perfect specimen of its kind, standing over twenty feet high and measuring as much in diameter, the brown stems and bold leaves creating a picture of rare beauty even though flowers were absent. Chinese Rhododendrons, including most of the newest varieties, are grown on an extensive scale; and we were specially interested in a fine plant of R. Keysii, the small, coral red flowers of which are clustered together much in the same way as are those of an Aloe.

The House Walls.—Naturally, in a garden such as this, one expects to find the walls of the mansion



A BEAUTIFUL SPRING BORDER AT TREGOTHNAN. PREPARATIONS FOR A BORDER OF THIS KIND MUST SOON BE COMMENCED.

put to good use, and in such a favourable climate to find many rare and choice things nestling under the shelter that the walls afford. On the south front we found such plants as Prostranthera rotundifolia fully bejewelled with its dainty little blue flowers, Cytisus fragrans, Clematis indivisa (a plant which we also found scrambling over a tall Oak tree in another part of the garden), Calceolaria violacea, Sollya heterophylla, and in the border a plant of Aloe serratifolia in full flower. On the east side such plants as Acacia riceana and Camellias thrive amazingly, imparting to the surroundings quite a tropical appearance. Reverting to the south front, the terrace is supported by a low retaining wall, part of which is shown in the accompanying illustration. Under the shelter of this such plants as Acacia verticillata, Correas, Boronias heterophylla and megastigma, and Coronilla glauca find a happy home, while in front of it we found one of the most charming spring borders that we have ever been privileged to see, and part of which is shown in the accompanying illustration.

Choice Shrubs and Trees.—These abound on every hand at Tregothnan, and in an article of this description it is impossible to mention anything like all the interesting and beautiful plants that we saw. In the shrub border running from the east side of the mansion we saw a magnificent plant, about six feet high, of the crimson-flowered Leptospermum scoparium Nicholii, a species which secured the cup offered for the best new plant at the International Show at Chelsea last year. It will be news to many of our readers to learn that a plant of such size exists in this country. Keeping it company were a goodly host of rare shrubs, including Drimys Winteri, Embothrium coccineum, Buddleia Colvillei, Feijoa sellowiana, Crinodendron Hookeri and Clianthus puniceus. In another part of the gardens we found a plant of Berberis Wilsonii, 5 feet in diameter, keeping company with large trees of the Blue Gum, Eucalyptus globulus, Pittosporums, and the so-called Mimosa, Acacia dealbata, which sends up suckers yards away from its main stem. In another direction Cytisus proliferus was flourishing, its white and rose coloured flowers being produced freely.

Palms, Tree Ferns and Dracænas.—The hardy Palm, Trachycarpus or Chamærops excelsa, abounds in the gardens at Tregothnan, and this, together with large, tree-like examples of Dracæna indivisa and, in some of the woodland glades, the Tree Fern, Dicksonia antarctica, impart to the gardens a subtropical appearance that is quite characteristic of Cornish gardens. The Palm mentioned might certainly be grown in many sheltered gardens in the London district, and it is possible that the Dracæna would also thrive if protected in the early stages of its career, and we hope the illustration of this, which shows the plants bordering the broad walk leading from a dainty little summer-house that faces south, will induce some at least of our readers to try them. The walk shown in the illustration leads down towards the water garden, through a spacious, rolling lawn, in which are beds filled with Azaleas and, at the bottom, two of the finest beds of a distinct variety of the Mediterranean Heath, Erica mediterranea, that we have ever had the pleasure of seeing. The head-gardener, Mr. Andrews, told us that he had raised all the plants that we saw in the beds. It has an erect, columnar habit, and flowers with almost embarrassing freedom. From these beds one could have cut armfuls of flowering sprays without them ever being missed, and the air for yards around was permeated with a perfume that one rarely encounters outside a highland moor. The view from the summer-house, at the top of the path shown in the accompanying illustration, is of rare beauty, looking as it does over miles of undulating, well-wooded country.

The Water Garden.—This is a charming feature at Tregothnan, and one that its owner is justly proud of. Situated in a large, natural depression and well surrounded by tall trees, the three placid pools, each on different levels and all connected by miniature cascades, provide a peaceful and delightful home for all kinds of aquatic plants. Here the happy visitor may enjoy, to the music of babbling water and sighing Bamboos, such plants as Primulas pulverulenta and kewensis, Water Lilies and Cape Pondweed, Gunneras, the young, sword-like foliage of many Irises, and,

THE BROAD WALK AT TREGOTHNAN, WITH TALL PLANTS OF DRACÆNA INDIVISA ON EACH SIDE.

if he be observant, under the spray of the largest cascade that gem of the Filmy Ferns, Todea superba. Even so early in the year this water garden was a peaceful place of great charm; but later in the summer, when the numerous and rare plants have fully developed, it would be even more beautiful and interesting.

Primroses in the Woodland.—The counties of Devon and Cornwall are, of course, famed the whole world over for their Primroses, which seem to thrive in any nook or corner that provides lodgment for a square inch of soil. Even in the gullies of the roadside we found them flowering happily, but it was in the woodland glades at Tregothnan that we had an optical feast of these beautiful natives which will live long and pleasantly in our mind. Broad stretches of these, flinging themselves in riotous profusion under the tall Beeches that stood like sentinels over them, seemed as though Nature herself had designed it all, placing there the giants of the vegetable world to give shade and shelter to their lowly brethren, and also to the more brilliant, though none the less pleasing, Bluebells that were to follow later.

Camellias. — We have purposely deferred mention of these until the last, because in a way they are a special feature of Tregothnan. In many parts of the grounds one finds large plants of robust appearance, but it is on the walls of the stables where the most wonderful plants in probably the whole of the British Isles are to be found. These walls are about thirty feet high, and extend for about fifty yards, the whole surface being completely covered by Camellias, which were planted many years ago. Last year all these plants flowered with considerable freedom, and the sight at that time can be more easily imagined than described. Even when not in flower the handsome, dark green, glossy foliage has a quiet beauty of its own that Ivy, or, indeed, any other evergreen suitable for the purpose, does not possess. Such, then, are the gardens at Tregothnan; a genial home for all that is good, beautiful and interesting in plant-life, and much of which might, with a little perseverance, be grown outdoors in sheltered gardens on the West Coast of England, Southern Scotland and the coast of Wales.

ROCK AND WATER GARDEN.

THE ROSETTE MULLEIN.

(Ramondia pyrenaica.)

THIS beautiful Rosette Mullein has been quite a favourite in the rockery for many years, and at the present time a rock garden is not complete without it. It is perfectly hardy, requiring to be grown between the stones in a light, well-drained, damp, peaty soil, but on no account exposed to full sunshine, which is detrimental, causing the plant to shrivel and die. It was thought by many at one time that a more or less vertical wall in the shade was absolutely essential for its success, but it is now generally known that it can be grown on the flat surface in the open, providing, as already mentioned, the plant is not too much exposed. Others worthy of cultivation are alba and rosea, two beautiful forms of R. pyrenaica, and R. serbica and its charming variety Nathaliæ. They are all easily raised from seeds, which should be sown in pots as soon as ripe, or by the leaves, which should be broken off close to the plant and the footstalk inserted into moist, sandy peat and kept close. F. G. Preston.

TREES AND SHRUBS.

THE MOCK ORANGES.

The various kinds of Philadelphus or Mock Orange form a valuable group of June-flowering shrubs, the majority of which are quite suitable for general planting throughout the country. A few are tender, but their exclusion need not have any serious effect upon the general usefulness of the group, for the perfectly hardy sorts are sufficiently numerous and varied in habit to offer a wide choice to the most fastidious person. Moreover, they are among the easiest of shrubs to cultivate, and, given moderately good soil, they occasion little further trouble once they become established. A surface-dressing of well-decayed manure, however, every second year is attended by good results, this being particularly necessary in the instance of the dwarf kinds, which are hard pruned each spring.

Pruning.—Large-growing species and varieties require very little pruning other than an occasional thinning out of a little of the older wood; but the dwarf kinds, more especially the hybrids of the Lemoinei group, require regular pruning. This must be done about the end of June, or as soon as the flowers fade, and pruning should consist of the removal of all the old flowering wood, cutting it back close to the ground should there appear to be plenty of young shoots growing from the rootstock, or, if young shoots are scarce there, to the strongest shoot appearing from the flowering wood. The object in view is the production of long, well-ripened wood, which if properly matured will blossom from end to end during the following year.

Propagation.—This is not difficult, for if cuttings of young shoots 3 inches to 4 inches long, with a slight heel of old wood, are taken during late June or early July and inserted in sandy soil in a close and slightly warm frame, roots are formed in the course of a few weeks. Some people insert cuttings of fully-matured wood, 9 inches to 12 inches in length, in outdoor borders during late autumn or winter, but the earlier cuttings are usually the more satisfactory.

About a score of species have been introduced, but about half-a-dozen, in addition to numerous hybrids, only are generally grown. Some of them are natives of the United States, others are found in China and Japan, while one or two have been collected in other Asiatic countries. The best for general purposes are the following:

P. coronarius, the common Mock Orange, or Syringa, is a widely-distributed Asiatic shrub. Under normal conditions it is met with from 8 feet to 15 feet in height, with a considerable spread, and bears large white or creamy coloured flowers freely. There are several varieties, but they are, as a whole, inferior to the type. Dianthiflorus plenus and flore pleno are forms with double

A BEAUTIFUL COLONY OF THE ROSETTE MULLEIN, A GOOD PLANT FOR A SHADED ROCK GARDEN.

flowers; foliis argenteo-variegatis has silver variegated leaves; foliis aureis bears golden leaves, which are pretty in the early stages, but lose their colour early in the summer; and nanus is of dwarf growth. P. tomentosus is sometimes looked upon as a distinct species, and is distinguished from P. coronarius by its more hairy character.

P. grandiflorus is an exceptionally fine plant from the Southern United States. Of vigorous growth, it sometimes exceeds twenty feet in height, while it often has a very wide spread. The flowers are white, shapely and quite 2 inches across, with a similar fragrance to that of the Asiatic species. Two well-marked varieties may be procured—floribundus, which blooms with remarkable freedom, and laxus, a variety of somewhat looser growth than the others, but equally floriferous.

P. inodorus, another Southern United States shrub, is hardly so useful as the species previously referred to, but it may be planted in gardens where the owner objects to the powerful scent of other species, for its flowers have little, if any, fragrance.

P. Lewisii is a native of Western North America, and it forms a large, shapely bush 12 feet high and as far through. At its best it is very showy, for the clear white flowers appear in profusion; but, unfortunately, it cannot be relied upon to blossom well each year.

P. mexicanus is only suitable for the warmer parts of the country, for it is somewhat tender. A native of Mexico, it forms a shrub 5 feet or 6 feet high and bears large white flowers of exquisite shape and fragrance.

P. microphyllus is the dwarf of the genus. Mature plants are about two feet in height, and are composed of a mass of slender, wiry branches bearing small, ovate, greyish leaves. The white flowers are deliciously fragrant, and are about three-quarters of an inch across. It is as a parent, however, that its value has been most known, for, crossed with P. coronarius, it was the means of P. Lemoinei being raised. The advent of that plant saw one of the best flowering shrubs of modern times put upon the market, and in any collection of twelve select flowering shrubs it is probable that P. Lemoinei or its variety erectus would find a place. Left to their own devices, the Lemoinei type form bushes 4 feet high; but it is usual to prune them hard each year and retain only young shoots. By this means plants 2½ feet to 3 feet high are obtained, which blossom profusely, the flowers having the delightful fragrance which is characteristic of P. microphyllus. There are several of these dwarf kinds, some having single, others double, flowers. Of the set, perhaps P. Lemoinei erectus is the most useful; but Avalanche, with very large flowers; Boule d'Argent, with double blossoms; Fantaisie, with large, white, flattish flowers, with a shade of rose in the centre; Gerbe de Neige, Candélabre, Mont Blanc, Pavillon Blanc, Rosace, a variety with semi-double flowers between 2 inches and 3 inches across; Virginal, a double-flowered form; and purpureo-maculatus are among the best. The last named is conspicuous by reason of its white, fragrant flowers having purplish centres. There are numerous other forms which might be used, but those mentioned will be found sufficient for most gardens. D.

THE ROSE GARDEN.

PREPARING SOIL FOR ROSE GARDENS.

THE time for laying out new or renovating old Rose gardens is fast approaching, and I would suggest that more than usual care be bestowed upon this all-important subject. So much depends upon the preparation of ground and the proposed forms of beds and borders, also more care in the selection of varieties that are best suited to each spot and purpose, that one may well wonder at the little forethought so often displayed. Let us bear in mind that we shall never have a better time for thoroughly preparing the soil by deep digging, manuring and any necessary drainage. Such a grand opportunity cannot occur again, and it is folly not to take full advantage of it.

That Roses can be successfully grown in a large and varied number of places and soils is well attested by the grand blooms invariably seen at any representative exhibition of our national flower, for do not these come from all over the kingdom? Nor is it so absolutely necessary to have the pure atmosphere of country life, as was thought for a long time. Indeed, I fancy one may safely state that Roses are as much grown in our crowded suburbs as any one other subject, now that we have such an improved choice to select from. Not only are they freer in blooming, but that many of our very choicest can be grown is well proved by the numerous superb stands so often found in the local classes, both in the metropolis and the largest and most thickly-populated provincial towns. It has often been a source of surprise to me to find such grand flowers at the provincial exhibitions of the National Rose Society as we almost always do. The classes for Roses grown within a radius of six, eight and ten miles of Charing Cross must come from any but the pure country atmospheres formerly considered indispensable. It is a matter of preparation and a judicious selection of varieties. In both cases much depends upon local circumstances; nor is there need for so much expensive labour in soil preparation as many apparently think. A little common sense directed towards drainage and the thorough overhauling and improvement of one's subsoil will go far towards success—may, perhaps, make all the difference between success and failure. So often the best of our suburban soils have been transferred before building operations take place. If this is not the case, they are frequently buried under the worst possible material in the matter of foundation excavations, together with the unconscionable dumping down of builders' refuse in the shape of spare cement, glass, old paint refuse and heaps of other matter detrimental to all forms of plant-life; so by all means take the first opportunity of thoroughly overhauling the soil to a depth of 3 feet at the very lowest, should there be the least doubt of its constituents. This complete moving will do much good in itself, and there could be no better time to ascertain what the ground is deficient of and to add or take away accordingly. I do not mean to say a lot upon this subject, but it is such a pity to miss the opportunity of a more favourable start than many secure, all the more so when the veriest tyro must realise the value of a properly-prepared basis. A. P.

ROSE CYNTHIA FORDE, A BEAUTIFUL FREE-FLOWERING VARIETY FOR GARDEN DECORATION.

ROSE CYNTHIA FORDE.

Among garden Roses of comparatively recent introduction this variety must take a prominent position, owing to the charming colour and form of the flowers, its vigorous branching habit and freedom of flowering. Raised by Mr. Hugh Dickson in 1909, it has quickly come to the front in many gardens. Although the blooms are rather flat, they are of exquisite form, as will be seen in the accompanying illustration. The plant makes a shapely, branching bush, and the blooms, which are bright rose pink in colour, are borne in clusters. Notwithstanding this, they are of large size, and there is no necessity to disbud, as many are so apt to do indiscriminately. At shows where vases of garden Roses are asked for, this variety would make a very telling bunch, as its long stems would enable the exhibitor to arrange it tastefully.

GARDENING FOR BEGINNERS.

HOW TO FORCE EARLY BULBS IN POTS, PANS AND BOXES.

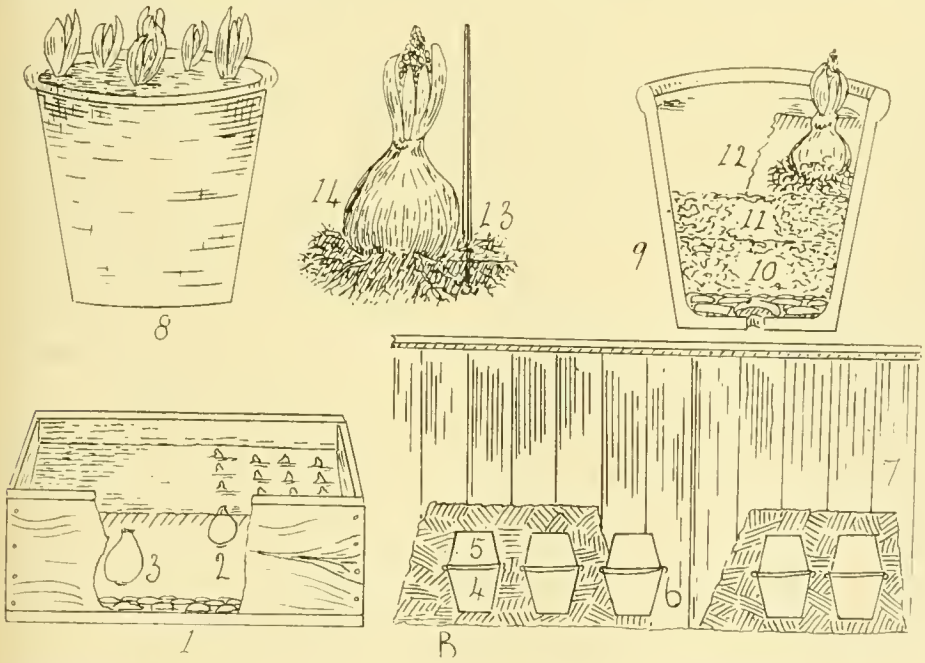
THE forcing of plants that are suitable for the purpose is always very interesting work, but the forcing of bulbs is fascinating as well, particularly to the beginner. In a very short time beautiful leaves and lovely, fragrant flowers are obtained from dry, hard bulbs simply by putting them in soil and subjecting them to moisture and temperate heat. Some who would like to force various kinds of bulbs are deterred from doing so by want of confidence in themselves, and because they think it is absolutely necessary to be able to command a high temperature.

The Soil.—An old compost is better than a new one, and if it has been mixed and kept in an open shed for two months prior to being used, it will be more suitable still. Fibrous turf, which has been stacked for two or three months, and sweet leaf-soil, a little more than half-rotted, should be used in equal quantities. To a bushel of the combined parts named add a 7-inch potful of sand, and put a handful of well-rotted manure in the bottom of each pot on the rougher portion used to form a part of the drainage, and before any of the general compost is put in. The roots of the bulbs will benefit from the manure in due course; but it is not wise to mix the manure with the soil generally, nor to so place it that the bulbs come in direct contact with it.

Potting and Boxing the Bulbs.—It is bad policy to place too many bulbs in a pot. Three Roman Hyacinths in a 5-inch and four in a 6½-inch pot will be quite sufficient. Bulbs of Narcissus Poeticus and N. Paper White may be put in close enough together to allow of the fingers being inserted between them. Tulips and Freesias should be potted in a similar way. When boxes less than five inches deep are used for Tulips and Narcissi, then 1 inch more space between the bulbs should be allowed. All pots and pans must be clean and dry, especially the insides. Fig. A: No. 1 shows a Narcissus bulb of good size, and No. 2 how the bulbs should be potted, with the crowns about three inches below the surface of the soil. No. 3 denotes a Tulip bulb, and No. 4 the right way to place the bulbs in a pot or pan with the crowns just visible above the soil. Nos. 5 and 6 show a Roman Hyacinth bulb and the right way to pot it respectively. With regard to Freesias, it is very important that the largest and firmest bulbs be potted. Small specimens, such as the one shown at No. 7, would only produce a mass of "grass," but no flowers. The one shown at No. 8 is the right kind to pot, as 95 per cent. of bulbs such as this will bear flower-stems. In every case pot pretty firmly, and bury the Freesia bulbs the same as those of the Narcissi. Fig. B: At No. 1 a box for bulbs is shown, No. 2 a Tulip and No. 3 a Narcissus bulb, and the right way to box each. Bury the pots or boxes under ashes—old ones, not new ones fresh from the furnace—sand or common soil. No. 4 denotes the pots containing the bulbs, and No. 5 the empty, inverted pots put on to protect the new growth from the pressure of the covering material. No. 6 shows an uncovered bulb pot. The position may be an open one or against a fence or wall, as shown at No. 7. When the new growth has advanced as much as shown at No. 8, remove the pots from the ashes. Sometimes it is necessary to transplant the growing bulbs from boxes, and make up pots of them for special purposes. The right way to do this is shown at No. 9. No. 10 denotes the drainage and rough compost, No. 11 the finer portion, and No. 12 the way to place the bulb and surround it with soil. No. 13 shows how to fix the stake for supporting a Hyacinth spike without damaging the bulb, No. 14. When removed from the ashes keep the bulbs in a cool frame for a short time, and transfer them to the greenhouse as required. From the time the flower-stems show plainly, give water more freely and also feed the plants.

G. G.

HOW TO POT BULBS OF DAFFODILS, TULIPS AND ROMAN HYACINTHS FOR FORCING.



THE BULBS MAY ALSO BE GROWN IN BOXES. ALL MUST BE PLUNGED IN ASHES OR SAND AFTER POTTING OR BOXING.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Violets.—Continue to keep these well hoed and watered when necessary, keeping an eye on the under side of the foliage so that spider does not get a footing. All runners should be removed as soon as they appear, as if these are allowed to develop they will considerably weaken the parent plant.

Annuals.—Some of the early-blooming annuals, such as Shirley Poppies, Clarkias, Candytuft and Viscarias, will be going out of flower, and rather than leave them to make the borders look untidy, they should be cleared out at once. Sunflowers, both large and small, are now making a good show, and to prevent damage by wind, a stake or stakes should, where necessary, be put to them.

Asters generally are not so good this season, owing, no doubt, to the serious drought we experienced at the time of planting out. Ostrich Plume, Comet and sinensis are all varieties that are grand for cutting. Sutton's Fire King is exceptionally good as an edging to a border, while as a bedder this firm's Pink Beauty is hard to beat, it being quite pyramidal in form and of a pleasing colour; height about eighteen inches.

The Rose Garden.

Climbing Polyantha Roses.—By this date most of the Polyanthas will have gone out of bloom, and should be pruned forthwith. Where the young growths are likely to prove of sufficient length to cover the pillars or arches, all the old wood may be cut out right to the base where the young growths spring from; but where a greater length is desired, two or three of the best two year old growths must be retained for extension, just cutting the flowering growths to a wood-bud. Electra, Tea Rambler and one or two other early-flowering Roses that were pruned in mid-July are now growing strongly, thus giving testimony to the good of early pruning or thinning. Many of the wichuraianas, such as Alberic Barbier, Leontine Gervais, Gardenia, Sylvia, Réné André and others, should not be pruned just now on account of their foliage, which will continue to look bright and effective till the autumn. Dorothy Perkins and Hiawatha, though wichuraianas, are not so showy in the foliage; hence they may be pruned as soon as blooming is finished.

Budded Stocks.—Standards and early-budded dwarfs should have the ties loosened, or, as the stocks swell, the matting is apt to cut into the wood.

Mildew.—Where this is troublesome, the plants should be syringed weekly with sulphide of potassium, half an ounce to a gallon of water, or the autumn crop of bloom will not be of much use.

Plants Under Glass.

Roman Hyacinths.—To secure early blooms Roman Hyacinths should be potted up at once, or at least as soon as they are received from the nurseryman. For cutting purposes boxes will do as well as pots, though, where they are required as pot plants, 4½-inch and 6-inch pots are desirable.

Paper-White Narcissi.—These also should be potted up as soon as received, it being quite essential to get them well rooted before introducing them to heat.

Freesia refracta alba.—Part of the stock of this sweetly-scented bulbous plant should also be potted, reserving the others for late batches. Four and a-half inch pots are the most useful, with about seven or eight bulbs in each pot. A moderately light, rich compost suits them well, and after potting and watering in they may be placed in a frame, putting the lights on only in the event of very wet weather, though to keep the pots from drying they may be covered with an old mat or two, or a light sprinkling of leaf-soil, till the growths begin to push, when they must have all the light and air possible.

Arum Lilies.—If wanted for decorative purposes, the best of the tubers should be potted singly in 6-inch pots, while for cut flowers they may be potted several in a pot, according to its size. A good, rich compost should be used, consisting of loam, short, well-rotted manure and sand. Pot firmly, and place them in a frame or a semi-sheltered position out of doors where they can be carefully watered till growth commences.

The Kitchen Garden.

Late Peas that may be developing mildew should be sprayed with a weak solution of sulphide of potassium about once a week, and if the weather continues dry, a good watering should be given. A good douche overhead as watering proceeds will also tend to keep them growing freely.

Celery.—After a really good watering and feeding, all early Celery should be partially earthed-up. Any decaying leaves and side growths should be taken off before tying, which should be done before the soil is brought up to the plants, cutting the matting again as the soil is made firm around them, the ties, if left, sometimes tending to deform the sticks.

Silver-Skinned Onions should be moved out of the soil a little as soon as the tops show signs of withering. These subjects are not required as large as one can get them, so it is as well to hasten their ripening as much as possible.

Fruits Under Glass.

Melons that are now setting their fruit should be carefully looked after, and wherever possible three or four fruits should be set on each plant. Where only one or two fruits are set on these late plants, they are apt to get unduly large, and do not ripen so well or get so good a flavour as the smaller fruit. From now onwards there is not quite the vigour in the plants that is seen in the spring, so that great care must be exercised both in the watering and feeding.

Strawberries.—Perpetual-fruiting Strawberries intended for autumn fruiting under glass may now be allowed to develop their flower-trusses, and if a good airy house is available, they may be placed in this. Well spray between the plants so that spider does not develop, or the crop will be ruined, and as soon as the fruits are nicely set, a dressing of Le Fruitier may be given to swell them.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Daffodils.—Everyone should have some of the older and cheaper varieties, such as the following: Trumpets—Emperor, Glory of Leiden, Mme. de Graaff, Mme. Plemp, Weardale Perfection, with their bicolor varieties, Empress, Horsfieldii and maximus; Mock Narcissus—Barri conspicuus, Eggs and Bacon, Sir Watkin and Minnie Hume; Poeticus—Burbidgei, John Bain and poetarum. Among more recent introductions the following moderate-priced varieties can be recommended: Trumpets—Fairy, Golden Bell, Hamlet, Lord Roberts, Master of Balliol and Monarch; whites—Alice Knights and Lady Audrey; bicolors—Glory of Noordwijk and Trewhiddle Bicolor; Mock Narcissus—Homespun, Beacon, Circlet, Eyebright, Oriflamme and Seagull; Poeticus—Barcarolle and Virgil.

Propagating Pansies and Violas.—September is probably the best month for propagating bedding Violas, but Pansies and exhibition Violas should be propagated this month. Cuttings will strike quite well in the open behind a wall or hedge, and if a frame is used it should face north. For these it will be more convenient to use boxes.

Propagating Bedding Plants.—A few varieties of bedding plants should be propagated this month. These include Heliotropes, Fuchsias, Iresines, Verbenas and a few others. A mild hot-bed should be prepared and allowed to cool down before placing the cuttings on it, and those who possess a spent hot-bed from the spring operations would do well to utilise it. Keep close during the day, but admit a chink of air overnight.

The Rock Garden.

Pricking Off Seedlings.—Where sowings of Dianthuses, Campanulas, &c., were made in May or June, the resulting seedlings will now be ready for pricking off. Sandy loam will suit the majority, but lovers of peat or lime must have their requirements met. In all cases it is better to avoid a rich soil. Boxes or pans will be found the most convenient, as a rule; but extra valuable plants had better be potted in 2½-inch pots, and the pots plunged in some open material, such as Cocoanut fibre. Keep rather close for a week after the operation, and then increase the ventilation by degrees.

The Rose Garden.

Pinching Shoots.—This requires attention throughout the growing season, and as the season advances the need for it rather increases, as at this period many varieties, especially those with a vigorous habit, such as J. B. Clark, Hugh Dickson and Mme. Abel Chatenay, are apt to send up one or two extra vigorous shoots, to the detriment of the others. If the points of these are pinched out, it will check them for the rest of the season, and thus equalise the flow of sap.

Mildew is often persistent during this month, and must be checked by sulphur in some form.

Plants Under Glass.

Cyclamens.—Young plants which are the result of seed sown last August will now be ready for the final potting, and, generally speaking, 6-inch pots will be suitable. A mixture of equal parts of turfy loam, good leaf-mould and sand will be found suitable if a proportion of cow-manure and guano or other similar fertiliser is added. Use the compost in a rather rough state and pot rather loosely. Replace in the frame and continue to sprinkle overhead twice a day for ten days or so, after which this attention should be discontinued. Give abundance of light, but shade from midday sun for a few weeks yet.

Begonia Gloire de Lorraine.—As the pots get filled with roots, mild and frequent feeding should commence. Attend to staking and tying as growth advances. Vaporise on the first appearance of thrip.

Fruits Under Glass.

Figs.—Trees on which a second crop of fruit is swelling must have the assistance of some fairly strong liquid manure, and care must be taken that they are not allowed to suffer for lack of water. Maintain a moist atmosphere and a brisk temperature until the fruits begin to ripen, when it should be slightly reduced and rather more ventilation given.

Melons.—Where the crop has been gathered and no second crop planted, the soil should be cleared away and the house in every part be thoroughly cleansed for the reception of such subjects as Salvia splendens, Begonia Gloire de Lorraine, or Cyclamens, as the case may be.

The Hardy Fruit Garden.

Trapping Wasps.—As fruits ripen, wasps will be ready to pounce upon them, and unless they are destroyed they will work much harm. I saw a very ingenious and apparently efficacious wasp trap this season, but it is not on the market yet. Numbers, however, can be lured to their doom by placing some jam and sugar with a proportion of water in narrow-mouthed jars, which should be placed near the fruit trees. A look-out should also be kept for nests, and when found they should be promptly destroyed. Hanging nests can be demolished by means of a torch formed of "waste" or rag tied on the end of a cane and saturated with petroleum. Those in the ground should have tar poured into them. The work must be done late in the evening.

The Vegetable Garden.

Earthing-Up Celery.—The main crop will now be fit for a first earthing-up. As suggested in the calendar a few weeks ago, it is worth while tying up the plants with raffia first. See that all side growths are removed.

Spinach.—Towards the end of next week a good sowing of Spinach should be made on a south border for spring use. I find that a summer variety, such as Victoria Round, succeeds as well as the Prickly Spinach.

Sowing Cabbages.—Make a sowing of three types for spring planting, say, Ellam's Early, Early York and Winningstadt.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

NEW AND RARE PLANTS.

Carnation Rosy Morn.—This is one of the handsomest border Carnations we have seen, though deep cerise, we think, most accurately describes the very remarkable tone of colouring. It is a pure self-coloured flower, with thick petals and strong supporting stems. From Mr. J. Douglas, Great Bookham.

Sutton's Red Sunflower.—This is the name by which it is hoped to popularise what is undoubtedly a great garden annual. The predominant colour is crimson and brown, the tips of the florets golden. The flower-heads are 6 inches to 8 inches across. From Messrs. Sutton and Sons, Reading.

Rose Annie Crawford.—This is reputed to be a seedling from Captain Hayward and Mrs. Sandford. It is of a shade of pink akin to Mrs. J. Laing, but fully twice its size. It is really a giant. From Mr. R. Hammond, Grovelands, Burgess Hill, Sussex.

Sweet Pea King White.—A very handsome pure white variety.

Sweet Pea Dobbie's Lavender.—A delightful tone of lavender. Both from Messrs. Dobbie and Co., Edinburgh.

Dendromecon rigidum.—A glorious golden Poppywort from California, not new, but very choice. In sheltered gardens it is hardy, but in others may require the protection of a wall or even cool greenhouse. From Sir Trevor Lawrence, Bart.

Nymphæa Colossea.—The name is suggestive of a giant flower, and this is the fact. Indeed, we believe it is the largest variety extant. The colour is white, the base of the flower being suffused with a delightful shade of pink. The anthers are golden.

Nymphæa Escarboncle.—The colour is the deepest crimson, and in this respect surpasses all comers. These were shown by Mr. Leopold de Rothschild, Gunnersbury House (gardener, Mr. J. Hudson).

Spiræa (Sorbaria) arborea grandis.—At first sight this bears resemblance to S. lindleyana, though the creamy plumes of flowers are stronger and more erect. It should make a splendid plant in isolation. From the Hon. Vicary Gibbs, Elstree.

Clematis tangutica obtusiuscula.—A pretty yellow-flowered form. The flowers are drooping and produced solitary on the branches. From Mr. F. C. Stern, Goring-by-Sea.

Gloxinia Veitch's Strain.—A very remarkable strain of these popular greenhouse flowers, from seeds sown in January last, was staged. It was representative of almost every shade of colour and of the highest merit. From Messrs. James Veitch and Sons, Limited, Chelsea.

All the foregoing were shown before the Royal Horticultural Society on the 29th ult., when each received an award of merit.

Hydrangea arborescens grandiflora is one of the comparatively few good hardy shrubs that flower freely in August. It makes a neat bush some three feet or rather more high, each stout growth being surmounted by a large head of creamy white flowers. For filling a large lawn bed this Hydrangea would be excellent.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ABOUT IRISES (*W. C. A.*).—Yes, the Iris is attacked by the Iris leaf-spot disease, due to the fungus Heterosporium gracile. Spraying with Bordeaux mixture or with ammoniacal copper carbonate acts as a check to the spread of the fungus, but we find the best thing to do is to apply lime liberally to the soil before the Irises are planted. A very good time to transplant or to propagate Irises is late June or early July, just as the new roots are being formed from the new growths.

FLOWER BORDER AND YEW HEDGE (*M. H. M.*).—In making your herbaceous border near a Yew hedge it will not be advisable to place the plants very close to the hedge, for on the one hand the roots of the hedge will interfere with the herbaceous plants, and on the other hand the herbaceous plants will injure the lower part of the hedge. If possible, it would be well to leave a space of at least 3 feet between the foot of the hedge and the herbaceous plants. Iberis sempervirens will continue to grow and flower for many years. All the attention it requires is the cutting away of old flower-heads as soon as the flowers fade. Cheiranthus Dillonii often lasts two or three years in good condition, but it is advisable to renew it frequently.

SCABIOSA CAUCASICA FAILING (*E. P.*).—The remedy is with the soil. In heavy soils this fine subject frequently refuses to root at all, but ramifies freely in lighter soils and grows and flowers abundantly. In your case, if you desire continued success, you will have to lighten and improve the soil and raise seedlings periodically, planting them out in spring. Such good plants are worth much to make them a success, for we certainly have not too much of blue or mauve in the garden at any time. In addition to making the soil lighter, add lime freely to the soil six months in advance. When incorporated with the soil, the lime has the effect of precipitating the superfluous water to a lower level. In this way it is warmed, aerated and drained as by a single action. In any case you should go on till you succeed, since seeds may be had cheaply and we know of no better plant to experiment with.

PENTSTEMONS FAILING (*E. P.*).—The plants should certainly be in flower now, and obviously they have failed from some local cause of which we have no information. To secure the finest results, some old plants should be cut down in August to about half their height, and the freshly-made cuttings taken when about three inches long. If you can make a cutting on, say, 6 inches of ashes, and above this place a 3-inch layer of sand, you will have a propagating medium of the very best. Water thoroughly and keep moderately close for about a month, when the cuttings should be rooted sufficiently for planting in 3-inch pots. If you cannot do this, give the cuttings more room at the start and leave them in the frame, protecting only in the case of severe frosts. We imagine the fault to be with the soil, and the Pentstemon prefers a rooting medium midway between light and heavy. Incorporate leaf-mould and sand with the soil, adding lime freely to ensure more perfect drainage.

SWAINSONAS LOSING THEIR FOLIAGE (*A. R.*).—Your Swainsonas must have received some decided check to cause them to lose their foliage now. What this is we, of course, cannot say, there being so many possibilities. They may have been allowed to get too dry, or perhaps too wet, while a change from a warm house to a cooler structure would tend to bring about this trouble. If the plants have been grown in a partially-shaded greenhouse and were placed out of doors without gradually hardening them, then some of their leaves would be likely to drop. You say nothing about the treatment the plants have received, and this, of course, handicaps us greatly in replying to your question. At all events, we should not advise you to cut down your plants now, as Swainsonas should in the ordinary course of events flower throughout the summer. If in pots, the bareness at the base may be relieved by associating them with other plants, and, in fact, the same will apply if they are bedded out during the summer, for which purpose Swainsonas are often used. With regard to their culture, it should be borne in mind that they are natives of Australia, and therefore in this country they require the temperature of an ordinary greenhouse plant.

SWEET PEAS DROPPING BUDS (*An Enquirer*).—Your Sweet Peas have probably become too wet at the root, or are in some way suffering from trouble there. This is the usual cause of bud-dropping. Your plants are Spiræa Ulmaria fl.-pl. and Ceanothus azureus, so far as we can say from the very poor specimens sent.

LILIES DISEASED (*L. W.*).—We cannot trace any insect boring, but find the Lily is attacked, in a similar way to that so frequent in the case of the common white Lily, by the fungus Botrytis cinerea. We recommend you to remove all the diseased and dying stems and the top few inches of soil from the plants, replacing the soil with fresh containing as little organic matter as possible.

LILIES GOING WRONG (*C. P.*).—Your soil is evidently teeming with all sorts of pests, and among them are millipedes and eelworms, both of which are capable of bringing about the damage shown by the plants you send. We recommend you to lime the soil thoroughly and do all possible to admit plenty of air and make it sweet. Vaporite or Apterite may be of use in checking the pests, but it is apparent that liming is particularly called for.

DOUBLE ROCKETS (*T. Hay*).—The photographs you send show excellent results of growing one of the finest of so-called old-fashioned herbaceous plants; but unfortunately they are not suitable for reproduction. We have never seen any red or crimson variety, and doubt whether such exists to-day at all. At one period the Double Rocket was of a sportive nature, and varieties were quickly made. The rubro plena of Messrs. Rollinson's 1875 catalogue was of a pale rose colour, and never merited the term "red." At that time only a few small plants existed, and in 1877 or 1878 were practically non-existent.

SAXIFRAGA COTYLEDON PYRAMIDALIS (*A. Elsas*).—This is the name of the plant of which you sent a photograph. The flowering spike is more densely crowded than usual, and otherwise is good of its kind. The rosette dies after flowering, but as both offsets and seeds are produced, you will be able to increase your stock, should you so desire. S. burseriana grows but 1 inch or 2 inches high, forming a spreading, prostrate tuft of leaves, over which in its best forms the blossoms of pure white, the size of a shilling, are scattered. The blossoms, too, are produced singly, *i.e.*, one on each stem, and usually appear in February.

DEEPLY-PLANTED IRIS GERMANICA (*T. A. S.*).—If too deeply planted, this should be remedied at once, otherwise the best time for replanting is March and April. The rhizomes of these plants should be practically on the surface, and during the operation the plants had best be freely divided also. The single sectional part of the rhizome (rootstock) made during the present year is ample as a single plant, though a dozen of these might be arranged at intervals of a few inches asunder to form a group. These Irises are not likely to flower if the rootstock is buried; they require sun to ripen them. Gather the Lavender just prior to the flowers fading, and expose the sprays in trays to the sun.

ANNUAL STOCK-FLOWERED LARKSPUR (*M. C. L.*).—There is not the least doubt that your cold and heavy soil is responsible for the greater part of the failure in these plants, and soil pests the remainder. The plants delighting in light soils and root warmth, the remedy is with the soil. Cannot you grow them in a bed apart, making the soil more congenial to the plants by the free addition of sand, leaf-soil and light manure? In very light and sandy soils the seeds of these plants may be sown in the open ground in March, but in the case of heavy soils they would be best sown in pots and subsequently transferred to the open ground; they are too sparse-rooting to succeed after transplanting in the ordinary way. If none of these appeals to you, try sowing a few seeds in pots of light soil. The pots should not be less than 8 inches in diameter, and could be plunged in any position you choose.

HARDY PLANTS FOR MARSHY GROUND (*K.*).—In such a position you might make good use of many plants, though the variety will depend to some extent upon the exposed condition of the situation. For example, if comparatively sheltered, Phyllostachys nigra, Bambusa palmata and other Bamboos would do quite well; if not, they had better be left alone. Of undoubted hardiness are such as the Royal Fern (Osmunda regalis), Spiræa gigantea, S. venusta, S. digitata, Gunnera scabra, G. manicata, Saxifraga peltata, Lilium pardalinum, Marsh Marigolds, Ranunculus Lingua, the Bulrush, any of the tall-growing Lysimachias, Lythrum roseum superbum, Iris sibirica in variety, Narcissus Emperor, N. Poeticus fl.-pl., Camassia esculenta and others. Indeed, it is surprising how large a variety of plants thrive in such places, while a little thoughtful work at planting-time will render them as attractive as other parts of the garden.

WATER LILY POOL (*John Gray*).—We presume there is too much sand in the clay, hence it is not impervious. In the circumstances you had better excavate 9 inches of the clay and discard it, replacing it by a 6-inch-thick bed of concrete of about four to one, *i.e.*, four of clean ballast to one of cement. Over this place an inch-thick bed of washed river sand and cement of one and one strength, *i.e.*, equal parts of each. At 9 inches from the surface reduce the thicker layer of concrete to one-half this thickness, while, if the position admits, you may turf the upper one down to the water edge. The naturalness or form of the whole is in your own hands, and a natural pool would have a very pretty effect. You would require a water depth of about two feet and a soil depth of about six inches. A greater naturalness to the whole would result were you to excavate to twice the above given depth and by a slight increase of the water depth, only leave at the bank-like slope to the pool ample room to

plant moisture-loving subjects here and there. We know of no book that will help you.

MADONNA LILY BULBS DISEASED (*M. Harris*).—The Lily has apparently been attacked by the disease induced by the fungus Botrytis cinerea. We have noticed that Lilies exposed to frost and cold draughts are more liable to the attack than are those in more sheltered situations. Lime in the soil also checks the trouble to some extent, but no perfect cure is known.

TREES AND SHRUBS.

CONIFERS TO PLANT IN A CHESTNUT WOOD (*A. H. R.*).—The two best conifers to plant in the Chestnut wood referred to in your letter are Abies pectinata (the common Silver Fir) and Picea excelsa (the common Spruce). It would, however, be a good plan to plant a few Beech trees among them. As rabbits appear to be present in quantity, considerable care will be required in fencing, otherwise every young tree will be ruined. Better results will be obtained by planting trees 12 inches to 18 inches in height than by planting larger ones, more especially in the case of the Fir and Spruce. Pit planting will be preferable to notch planting, and if a little trouble is taken in breaking up the ground for a space of 3 feet or so about the roots, the plants will stand a better chance of success than if the soil were left hard.

PLEACHED LIME TREES AS A SCREEN (*M. M. K. C.*).—There is no reason why you should not form a screen by the use of pleached Lime trees such as you describe, for it would not be likely to seriously affect your herbaceous border, although the Lime roots in time are bound to enter the border and thus deprive the plants of some of their nourishment. If you could plant them 5 feet or 6 feet from the wall, it would be possible to dig a trench near the wall every few years and cut the roots through. That would not injure the trees much and would save the border. The following kinds of Clematises would be likely to suit your purpose: C. montana, C. m. rubens, C. lanuginosa, C. Beauty of Worcester, C. Enchantress, C. Grand Duchess, C. La France, C. Lord Nevill, C. Marie Lefebvre, C. Jackmanii, C. J. alba, C. Mme. Edouard André, C. Mme. Grange, C. Sensation and C. coccinea.

ROSE GARDEN.

SPORT OF TAUSENDSCHON (*J. G. K.*).—This Rose will often throw off pale, nearly white blooms. If you can send us a flower, we shall be able to inform you if it is of any value. Enclose a shoot, so that we may see if the growth is true.

ROSE SPORT (*J. G.*).—We cannot think you have a sport. Rather should we say you have had sent you the wrong variety. The Rose is not that of Molly Sharman Crawford, and a sport rarely varies in its growth (save climbing sports) from the parent variety. We believe the Rose is Mrs. Arthur Munt.

STANDARD ROSES NOT FLOWERING (*T. W.*).—If the trees were not pruned in spring, you cannot well do so now; but if pruned and they have made the tiny shoots you speak of, we advise you to tie them over umbrella fashion. If it does not make them bloom this season, it will assist in laying the foundation for bloom next year.

MANURING WICHURAIANA ROSES (*M. S. F.*).—We think a dressing of basic slag applied in October at the rate of 6oz. to a square yard would give you the necessary lime, and at the same time supply phosphate to improve the blooms. A dressing of well-decayed farmyard manure could follow, and both should be dug under at once; then, in spring, give a dressing of bone-flour at the rate of a good handful per plant.

OLD CLIMBERS BLIGHTED (*Dormans*).—We think you would do well to severely prune the red climbers next autumn, but do not think it will be necessary to grub them out. We advise you to give the Roses a good dressing of commercial formaldehyde diluted to a strength of one tablespoonful of the 40 per cent. article to a gallon of soft water. Double this strength may be used in winter. It should be applied every week or ten days, and although it is now very late to begin, we think, if you persist in it, the blight will be very considerably checked.

ROSES DROOPING (*Miss Beddington*).—The Roses you send are mainly Maman Cochet, and this is one of the most unsuitable kinds you could plant as a bedding Rose. Its proper place is against a south wall, where the warmth would encourage its very double flowers to develop. It is a Rose that objects to too much manure; in fact, if grown in quite a poor soil it is best for it. Of course, the present season has been all against such Roses, they being very susceptible to wet, which causes the petals to stick together; then the whole bloom rots away. If the outside petals could be released before decay set in, the blooms would open all right. We advise you to remove the plants to a warm border and train them upon a wall or fence, replacing with good kinds of the Lady Roberts type, which you say has done so well.

THE GREENHOUSE.

PELARGONIUMS DAMAGED (*H. J.*).—The rotting of the stem of the Pelargonium seems to be due to the presence of myriads of bacteria in the stems. It would be well to discard these plants entirely. It not infrequently happens that cuttings fail to heal, after being put into the soil to root, rapidly enough to prevent the entrance of bacteria, and these then rapidly work great havoc. Kindly send flowers of your new variety, when we can better advise you of its value.

FRUIT GARDEN.

AUTUMN-FRUITING RASPBERRIES (*Grace Gardener*).—The autumn fruiting of your Raspberry canes will practically ruin them for next season. Plenty of other excellent growths will push up yet, and you should select five or six of these for retention.

GREASE-BANDS FOR FRUIT TREES (*Greystoke*).—These should be put on in October and re-greased once a month until the end of February. This is an excellent remedy against attack from Codlin and winter moth and the larvæ of other species which eat the foliage of fruit trees in spring.

PEAR-LEAF BLISTER (*W. H.*).—The variety Thompson seems to have had its foliage exposed to cold winds or draughts, and the others are suffering from an attack of the Pear-leaf blister mite (Eriophyes pyri). They should be sprayed with caustic soda (1lb. to ten gallons of water) during winter, or with paraffin emulsion.

INJURY TO MELON FRUITS (*D. M. L.*).—We suspect cockroaches to be eating the young Melons, though perhaps crickets are the culprits. If so, they should be trapped, using a jar sunk in the ground and having a little beer at the bottom, or one of the "V.T.H." slug traps, which we have found excellent for capturing cockroaches. You may ascertain which the culprits are by examining the plant after dark.

SPOTS ON APPLE LEAF (*A. J. B.*).—The brown spots are due to the attack of the fungus Cladosporium herbarum upon the Apple leaves. It seems more usual for this fungus to attack leaves slightly damaged by frost or by cold winds than where the leaves have suffered no check. We recommend attention to the provision of shelter, wherever possible, and the spraying of the trees liable to attack early in the season with Bordeaux mixture.

MORELLO CHERRIES WITH FORE-RIGHT SHOOTS (*R. P. H.*).—Cut all the fore-right shoots back to within four buds of their base now, and at the winter pruning cut further back to within two buds of their base. By this treatment fruit spurs and blossom buds will be formed, and fruit borne in due time. You must not let your trees get too dry at the root at any time. This, no doubt, is the cause of the fruit dropping this year.

PEACH LEAVES DROPPING OFF (*Peach Leaf*).—Your Peach trees under glass are affected by what is termed shot-hole fungus. The attack is usually caused by a chill through admitting too much front air when the wind is cold and the young leaves tender. The best remedy you can apply is to dredge the foliage completely, both under and over, with sulphur, leaving it on for two days, shading the house in the meantime, and then syringing it off. Burn all the old leaves as they fall, give abundance of air day and night (except in very rough weather), and encourage the growth by syringing morning and afternoon and by careful watering.

MILDEW ON BLACK HAMBURGH GRAPES (*F. W. R.*).—The most common cause of an attack of mildew, such as your Grapes are suffering from, is from opening the front ventilator too wide in the cold weather, when the vinery is warm from gleams of sunshine. This causes a chill to the Vines and at once invites an attack of mildew. The best thing you can do is to heat the hot-water pipes (not too hot), and then paint them over with flowers of sulphur mixed with water to the consistency of paint. It should be done in the evening of a calm, damp day. This prevents the sulphur fumes caused by the heat of the pipes being blown away. Repeat the heating of the pipes and resulphuring the second evening. The vinery must be shut up, of course.

TRAINED MULBERRY TREES NOT FRUITING (*Meredith*).—Mulberry trees are always a long time in bearing fruit after planting (unless their roots are confined in narrow and limited borders), chiefly in consequence of the too robust growth of branches and leaves they make while the trees are young. This is borne out by the specimens kindly sent. The treatment to adopt to compel them to bear fruit will be to severely root prune them in the autumn as soon as the leaves have fallen. This will result in the trees producing branches of shorter growth and moderate strength, such branches only as will produce flower-buds and fruit. The trees should receive no manure at the roots until they have been brought into a condition of fruit-bearing.

KITCHEN GARDEN.

PEAS DISEASED (*Petits Pois*). — Some of the symptoms of disease shown by the Peas are similar to those shown by plants attacked by Thielavia basicola at the root, but the roots sent are insufficient in quantity to enable us to say definitely the cause of the trouble.

TOMATOES DISEASED (*W. B.*).—The Tomatoes are attacked by the fungus Cladosporium fulvum, which is usually far more prevalent in houses kept too close and damp than where there is ample ventilation and a dry atmosphere. Spray the plants either with Bordeaux mixture or with potassium sulphide, 1oz. to three gallons of water.

MISCELLANEOUS.

WIREWORMS IN SOIL (*Totnes*).—A satisfactory method of preventing wireworms from damaging garden crops is to cultivate the soil thoroughly and frequently. Hoeing is especially useful. You can now only try to drive them away by dusting or hoeing in one or other of the soil fumigants, such as Vaporite or Apterite. The sowing and digging in of mustard is often a useful measure, driving away the wireworms and at the same time adding organic matter to the soil.

ORGANIC MANURE FOR A CLAY SOIL (*Carlside*).—We think you would obtain better results on a heavy clay soil from using straw litter manure than from peat moss. The former will not only be less liable to render the soil acid, but will also tend to "open" the soil more—an important thing.

EPSOM SALTS AS MANURE (*W. B.*).—Epsom salts is chemically called magnesium sulphate. Soil is rarely lacking in magnesia in sufficient quantities for the use of plants; but if you desire to try its effects, dissolve 1oz. in two gallons of water, and water the plants now and again about three weeks hence.

MELON AND TOMATO DISEASE (*W. H.*).—Your Melon is apparently attacked by the Melon and Tomato canker (Mycosphæmla). This disease must be notified to the Board of Agriculture. The plants not affected should be sprayed with Bordeaux mixture or with sulphide of potassium. The soil should not be again used for growing Melons, Cucumbers, or Tomatoes until it has been sterilised by steam heating.

FUNGUS ON DOORPOSTS (*J. S.*).—The fungus is a Polyporus, which destroys the wood, and will, no doubt, spread unless the conditions are made unfavourable for its development. The thorough impregnation of the wood with carbolineum or with copper sulphate would stop its progress, but merely painting the surface is unlikely to do so. The main thing to attend to is the ventilation of the surfaces, and that, from what you say, appears to be completely wanting.

NAMES OF PLANTS.—*W. H. J., Plaistow.*—1, Œnothera Youngii; 2, Jasione perenne.——*H. Etheridge.*—Rose Celeste, a variety of R. alba.——*A. B. C.*—Achillea Ptarmica The Pearl.

SOCIETIES.

CARDIFF RORTICULTURAL SHOW.

THE twenty-fifth annual show was held on the 23rd and 24th ult. as usual in the Sophia Gardens, by the kind permission of the Marquis of Bute, and was quite a success. So numerous were the entries that an extra tent was needed for trade exhibits, which added much to the excellence of the display. Plants were meritorious. Cut flowers, especially Roses, were exceedingly fine. Sweet Peas are always a strong feature here; this year they surpassed any seen before. Fruit and vegetables were distinctly of a high order of merit. Mr. Maurice Bailey, secretary, had, as usual, everything well in hand. Plants were attractively displayed. Messrs. J. Cypher and Sons, Cheltenham, with one of their characteristic exhibits won the premier place for a group of miscellaneous plants arranged for effect. Palms, Crotons, Orchids and a choice assortment of other flowering plants were all harmoniously blended. Mr. D. MacIntyre, gardener to Lady Hill, Rookwood, was a good second. This exhibitor staged remarkable Fuchsias, pyramids 8 feet high, profusely flowered.

Mr. H. J. Pilcher, Penarth, was first for tuberous Begonias with extremely fine blooms, thickly studded on well-grown plants.

Cut flowers are a strong feature here. Roses had many classes provided for them. For twelve triplets there were five entries. Mr. J. Mattock, Headington, Oxon, won the premier place with high quality blooms of British Queen, Mrs. A. Coxhead, Mrs. W. H. Rowe, Mildred Grant, J. B. Clark and Mrs. T. Roosevelt. The King's Acre Nursery Company, Hereford, were a close second.

In the class for twenty-four single blooms, distinct, Mr. S. Treseder, Ely Nurseries, Cardiff, won the premier position with medium-sized, highly-coloured examples of popular varieties.

The King's Acre Nursery Company won for eighteen Tea or Noisette varieties with typical specimens of Mrs. Myles Kennedy and White Maman Cochet, for example.

A keen competition for twelve blooms, any one variety of other than Tea or Noisette, resulted in Gloire de Chedane Guinoisseau carrying off the highest position for the King's Acre Nursery Company, a like award falling to the same firm for a similar number of any one Tea or Noisette with desirable blooms of Mrs. E. Mawley.

Groups of cut Roses occupying a space of 9 feet by 4 feet, with the use of Rose foliage only, were numerous and attractive. Mr. J. Mattock arranged a distinctly meritorious exhibit and worthily secured the leading award. Such sorts as Ethel Malcolm, Lady Pirrie, Lady Hillingdon and Rayon d'Or were shown in huge masses; these and the following Ramblers made a delightful display, which was much admired by visitors. Dorothy Perkins and its white sport, with Philadelphia Rambler, were conspicuously good. Mr. John Crossling, Penarth Nurseries, was second. Amateurs in smaller classes were creditably represented.

Carnations were much in evidence, helping to make the huge tent attractive. Border varieties with Picotees receive encouragement here. A group to fill a space 6 feet by 3 feet was the leading feature. Mr. H. Lakeman, Thornton Heath, was first with high quality blooms; if not so numerous, a fine mass of the yellow Cecilia was admired. Mr. C. Wall, Bath, a noted exhibitor, was second with a fuller display but hardly the quality of the first prize group. The last named won for a display of Tree, American and Malmaison varieties, showing R. F. Felton, Carola and Mrs. C. W. Ward finely.

Border varieties with Picotees, dressed and on stands, were numerous. Mr. Thomas Melhones was first for a dozen highly-coloured, shapely blooms.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, *Tavistock Street, Covent Garden, W.C.*

NOTES OF THE WEEK.

Drying Herbs.—All kinds of herbs should now be gathered. Tie them in bunches and hang them in an airy place to dry. When quite dry and brittle, strip off the leaves and rub them fine with the hands, and then store away for winter use in well-corked bottles. Lavender flowers ought also to be gathered, tied in small bunches and placed somewhere to dry.

A Useful Creeping British Plant.—One of the most attractive of our native plants that adorn some of the moist places in our country throughout the summer is Lysimachia Nummularia, commonly known as Creeping Jenny. For growing in pots or window-boxes in towns it will be found to be most valuable, the bright yellow flowers, like myriads of stars, almost covering the foliage, which hangs down from 18 inches to 30 inches in a very graceful manner.

A Useful August-Flowering Shrub. One of the best hardy shrubs flowering in August is Olearia Haastii, a native of New Zealand. It is a particularly useful shrub for small gardens, as it thrives well in towns and has the additional advantage of being evergreen. Growing 3 feet to 5 feet in height, O. Haastii has comparatively small Box-like leaves, greyish green in colour, and during August produces a profusion of small, starry white blossoms.

A Dainty Hardy Annual.—Ionopsidium acaule, or the Violet Cress, was imported from Portugal sixty-eight years ago. This tiny but exquisitely beautiful hardy annual has never become a popular favourite, and why? Just because of its unobtrusiveness. Like all gems, it is only found when searched for. It only grows from 2 inches to 3 inches high, but its numerous tiny flowers of lilac, yellow and violet are very attractive. Sown in the crevices of the paved garden or on the rockwork, it appears to be quite at home.

The Purple Loosestrife by the Water-Side.—This is a very attractive herbaceous plant to use freely by the side of water and in damp, moist positions. Growing about three feet in height, the long, slender spikes of closely-packed flowers last in good condition for a couple of months—July and August. One important point is that no harm results from the flooding of the roots with water in winter, a condition which proves fatal to many plants. Even more showy and bright than the species is the rosy red variety, Lythrum Salicaria rosea.

International Horticultural Exhibition—Financial Statement.—The long-awaited financial statement of the International Exhibition held in May, 1912, is now issued. It is satisfactory to note that after providing for all liabilities, a profit has been made, and that charities have benefited. The Gardeners' Royal Benevolent Institution benefits to the extent of £1,532 1s. 7d., while the following sums have also been allotted: Royal Gardeners' Orphan Fund, £766 0s. 10d.; Irish Gardeners' Association and Benevolent Society, £100; donation towards republishing Pritzel's "Botanical Index," £250. There is also a balance in hand for contingencies of £20.

A Pretty Effect Made by Rose Dorothy Perkins.—Visitors to Kew during the latter half of July and the early half of August have been charmed by this pretty Rose planted about the pond near the Palm House. On the Palm House side of the pond, and for a short distance along two other sides, the banks are held up by a wall, which stands four feet or so clear of the water, but is only a little higher than the surrounding ground. For a distance of about twenty yards along the two sides the Rose has been planted, so that the branches fall over and almost touch the water. These, during the time mentioned, are perfect sheets of flowers, which contrasted well with the bright green leaves, and were reflected in the water below.

The Panther Lily.—In Lilium pardalinum, the Panther Lily, we possess a particularly useful tall-growing Lily which flowers from the middle of July until the middle of August. A native of North America, the usual height is from 5 feet to 7 feet. Both leaves and flowers are arranged in whorls on the tall stems, giving the plants a distinct and stately character. Each stem terminates in a loose inflorescence of twelve to twenty blooms, rich orange in colour and freely spotted. It is what may be termed a good-natured Lily, for the bulbs appear to thrive equally well in peat or moderately light loam. L. pardalinum has large, rhizomatous bulbs, which increase rapidly. These should be planted 5 inches to 6 inches deep, as this is a stem-rooting species. One of the best positions for this Lily is in beds of Rhododendrons, where the stems will be screened from the hot sun.

An Orchid Hybrid Growing Wild.—Sixteen years ago an interesting hybrid between Orchis maculata and Platanthera bifolia named Orchiplatanthera chevallieriana was recorded as British, it having been found on a large moor near Perth among a profuse growth of the two parent species. It has now been found in a hayfield, close to the edge of a copse, about two miles from Shepton Mallett, Somerset. The finder, says the current issue of the *Orchid Review*, was Harry Stacy, a small boy, who recognised it as something unfamiliar to him. It shows an unmistakable combination of the characters of Platanthera bifolia and Orchis maculata, which are said to grow in the same field, the flowers being white and unspotted, but with two ample rounded side lobes to the lip, an elongated front lobe and the spur nearly as short as in O. maculata, which it also approaches in the shape of the spike. It is an interesting discovery, and might encourage further search where the two species grow together.

CORRESPONDENCE.

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

A Well-Flowered Phyllocactus.—I am sending you a photograph of one of my Phyllocactus plants, which is now in full bloom. The species is probably Cooperi. I have two plants, and have had seventy-two blooms on them this year. You will notice the amount of nourishment taken out of the lower leaves, though the plant has been continually fed with liquid manure and Clay's Fertilizer. By careful summer treatment I hope to have as good a result next year.—E. W. Dutton, *Noak Hill School, Romford.*

The Loganberry.—I read with interest Mr. Owen Thomas' article on "The Loganberry as a Commercial Fruit" in The Garden of August 2, page 385, where he rightly emphasises its commercial value. Allow me to supplement his remarks on the training of this plant by saying that I think the best method of training is by means of a double wire trellis. By this method the fruiting canes are trained up one side and the succession canes on the other, transposing the order annually, of course. This keeps things tidy and gives the whole the maximum of light and air. One set of standards is sufficient, with cross pieces a foot long, furnished with an eye at either end to run the wires along.—C. C.

Scentless Musk.—The loss of scent in the common Musk, Mimulus moschatus, to which reference has recently been made, appears to be now so general in English gardens that it would be of interest to know how far this curious and lamentable condition has extended, or whether it is universal. May I be allowed to request readers of The Garden in Scotland, Wales and Ireland, and also in foreign countries, to say whether this grievous loss of one of the charms of this good old plant also prevails with them? One would also like to ask botanists whether any scientific light has been thrown on the matter. I do not know how long it will take to reconcile me to this new state of things, but, for my own part, when I look at a flowering patch of Musk the old firm faith in its sweetness is so persistent, so impossible to dissociate from the appearance of the plant, that, until I actually take a piece and smell it, I cannot believe that the scent is gone.—G. J.

Rambling Roses.—A "Note of the Week" in The Garden for August 2 on the beauty of Rose Lady Godiva encourages still further witness to the merit of this lovely late-blooming rambler. It has all the freedom of Dorothy Perkins, from which it is a sport, but the lighter and more refined colouring—a tender salmon pink, shading from deeper to paler as the flower matures—makes it the loveliest thing in the garden in the last days of July. Another beautiful rambler that should be more widely grown is Evangeline, a Rose of American origin. It is a single Rose, blooming in large clusters, the individual flower something like a Dog Rose, but larger and of firmer texture. It is very free, both of growth and bloom, and beautiful alike in the garden and in half-wild places. I have just noted how excellent this Rose would be for grouping on a sunny bank with the wild Clematis Vitalba. Nothing could be better, planted in some quantity, in such a place as the mounds and banks that occur at the edges of a quarry, or on any broken or tumbled ground that there may be on the further edges of garden ground.—G. Jekyll.

Open-Air Tomatoes.—The note under the above heading on page 376, July 26 issue, reminds me of a way of growing Tomatoes which I saw—it is now some sixty years ago—in the garden of an uncle of mine, who brought seeds of the, at that time in Germany, wholly unknown plant from America. He called them Paradise Apples or Love Apples. They were cultivated in rows much like we grow Potatoes, but instead of being planted on the apex of the ridges, they stood between rather high ridges in the valleys. Thus protected from wind, and warmth gathering around them, I can recollect them being in admirable condition, the glowing colour of the hundreds of fruits having made a deep impression on my juvenile mind. I am sure there was no kind of support in the way of tying up given them; they simply rested between the ridges. As I have never seen this mode of growing Tomatoes since, I thought perhaps it might interest your readers to know of it.—E. Heinrich, *Planegg, Bavaria.*

WELL-FLOWERED PHYLLOCACTUS IN A READER'S GARDEN.

The Altai Rose in August.—One of my plants of a favourite single Rose of mine, Rosa altaica, is again in bloom, and one is delighted to see its large white flowers once more. It frequently flowers a second time in autumn, and probably the other plants here will follow the example of this one a little later, especially if cooler and moister weather conditions should prevail. R. altaica is very acceptable as one of the earliest of the Rose species to flower, coming in May, when it gives the greatest abundance of its handsome white flowers. Those produced in autumn are not nearly so numerous. It is surprising to see how few gardens possess this fine Rose, which, either against a wall or in bush form, is very handsome. One of my plants, against a 6-foot wall has long overtopped the wall, and is some 9 feet high at present. I like it best as a bush, however, and it is most graceful then. Like many of the Rose species, R. altaica, which is, by the way, classed as a form of R. spinosissima, was quite uninjured by the frosts which committed such havoc with the wichuraianas and other Rambler Roses in Scotland last winter.—S. Arnott, *Dumfries.*

Raising Iris Kæmpferi from Seed.—I think the enclosed photograph should be interesting as showing the extreme beauty of the single form of Iris Kæmpferi. Some three years ago I sowed seeds gathered as soon as they were thoroughly ripe. I sowed the seeds in an ordinary 6-inch flower-pot, and there they remained, with the shelter of a cold frame, until the seedlings were large enough to be planted out. They were thus handled once only from the time of sowing until they flowered. From this single potful of seed I obtained 100 flowering clumps in the third season from sowing. Their range of colour is wide, varying from white to dark blue. The most beautiful shade, however, is lavender. All of the flowers are beautifully veined in the manner so well known in this species. The particular specimen illustrated has falls of pearl white, veined with dark blue, with yellow markings in the throat, and standards of pale purple. I think if Iris-lovers realised how simple is the culture of this queen of Irises, as indicated by the above note, Iris Kæmpferi would be far more largely grown than is the case at present.—Raymond E. Negus. [Unfortunately, the photograph, which showed a good flower, was not suitable for reproduction.—Ed.]

A Good New Thunbergia.—Thunbergia Gibsonii, which was given an award of merit by the Royal Horticultural Society on May 14 and was again shown on July 15, is a new plant of considerable promise. Botanically it may perhaps only be regarded as a form of the well-known Thunbergia affinis, but from a garden point of view it is very distinct and greatly superior to it. While T. affinis is of annual duration, T. Gibsonii is a perennial, and can be readily increased either by means of seeds or cuttings. The branches naturally lie flat on the ground, though in all probability it could be trained as a climber. The flowers, however, form the dominant feature, being larger than those of T. alata and of an intense brilliant orange colour, a tint difficult to describe. When the plant is flat on the ground, the flowers are borne upright, or nearly so, on long, firm stems. They are attended by a couple of large hairy bracts, in colour green, striped with purple, from one side of which the flower protrudes. Being very amenable to ordinary culture and so readily propagated, there is little doubt but that this Thunbergia will before long be very generally distributed. For such a striking plant many uses will be found. It was introduced from British East Africa by W. Van de Weyer, Esq., Corfe Castle, Dorset. British East Africa is the home of many plants that grace our greenhouses and conservatories, and this Thunbergia is quite an acquisition.—H. P.

Spiræa Anthony Waterer.—This delightful little bright-coloured shrub well merits all that is said in its favour in "Notes of the Week" in The Garden for August 2. It should be, as there stated, pruned hard back in early spring, while I find a great incentive to a continued display of blossoms is to keep the old flowers cut off as soon as they get shabby, and to give the plants an occasional dose of liquid manure. Under this treatment they will bloom throughout the entire summer.

Erica hybrida.—Some years ago attention was directed to a beautiful winter-flowering hardy Heath which, under the name of E. mediterranea hybrida, had been put into commerce in a very quiet, unobtrusive way. In referring to this Heath a custom has of late arisen to drop the name of mediterranea, and simply call it E. hybrida. An instance of this is to be found in The Garden for August 2, page 383. Inordinately long names are often a stumbling-block, but in referring to this Heath as E. hybrida confusion may ensue. It seems to have been overlooked that there is an old and well-known greenhouse Heath bearing this name, which, if priority counts for anything, cannot be ousted from its position. This Heath, with bright red flowers, is referred to in the "Dictionary of Gardening" as E. hybrida, and over forty years ago it was grown in quantity for Covent Garden Market. Even now it is listed by those who still grow the greenhouse Heaths. To avoid confusion the hardy kind should, therefore, bear its full title.

Gloxinias from Seeds.—Time was when it was considered necessary to propagate the better forms of Gloxinias by means of leaf-cuttings, but now, so carefully is the seed saved, that when obtained from a reliable source the very finest of flowers can be depended upon. The superior flowers borne on plants raised from seeds, and the short time necessary to obtain them, was well exemplified at the Royal Horticultural Hall on July 29, when an entire table was filled with perfect examples. The seed of these was sown only in January, so that the plants were about six months old, yet the size of the flowers and the number of buds still to develop would lead one to think that they were second season's plants. The leafage of the plants was also sturdy and of good substance, there being none of that floppy appearance so often to be found in plants that have been grown too warmly, a very common failing with many growers of Gloxinias. Such plants as those shown could be depended upon to keep up a fine display of flowers throughout the month of August, at which time some of the occupants of the greenhouse will be getting past their best. Grown coolly, Gloxinias do not require any fire-heat during the summer, but it is very essential that they be shaded from the sun's rays.—H. P.

FORTHCOMING EVENTS.

August 18.—Shows at Warkworth and Pitsmoor (Sheffield).

August 20.—Shows at Shrewsbury (two days) and Wallingford. Banffshire, West Cumberland and Royal Jersey Horticultural Society's Shows.

August 21.—Flower Show at Aberdeen (two days).

August 22.—Highland Horticultural Society's Show. Flower Show at Blairgowrie and Rattray (two days).

August 23.—Flower Show at Burnley.

August 26.—Royal Horticultural Society's Exhibition. Royal Horticultural Society of Ireland Autumn Show.

THE FRUIT GARDEN.

VINES IN AUGUST.

Hints on Their Treatment.

THE amateur cultivator who grows early and late ripening Grapes will find his Vines in a very interesting stage in August. He generally wishes to grow, say, Black Hamburgh, Foster's Seedling, or Buckland Sweetwater in the same structure that accommodates Alicante, Gros Colman, Madresfield Court and Muscat of Alexandria. Now, in order that each variety may be grown to a perfect finish, at least two houses should be devoted to these varieties, so if the amateur almost attains perfection in the one house, he must be satisfied. Bunches that are ripe and those commencing to ripen require slightly different treatment. We will presume that there are ripe Black Hamburgh and Foster's Seedling in a house where Alicante, Gros Colman and Muscat of Alexandria are just beginning to ripen. If the ventilators are small ones and can be worked separately, those nearest the ripe Grapes may be opened wider than those nearer to the late-keeping varieties. Except when the weather is very warm, a less quantity of water must be used generally in the damping of paths and borders; but in cases to which we now refer there need be no damping at all of borders immediately under the ripe Grapes. In the case of the latter, which are of the black varieties, a little extra growth of laterals may be allowed; but the laterals on the white varieties should not be retained in great numbers, as light is essential to good finish and helps to produce that amber tint we all like to see. Excessive covering created by the growth of lateral and sublateral shoots must not be permitted in the case of early-ripening black Grapes, as any undue shading would interfere with the proper ripening of the wood and basal buds thereon. A light shade for a period of two or three weeks will materially help to retain the blue-black colour of the berries; exposure to light gradually lessens it.

Watering the Soil.—After many years' experience I have come to the conclusion that Vine borders are in many instances overwatered. On no account must water be given while the soil is at all moist, but just before dryness sets in it ought to be well soaked through and any stimulating foods necessary applied immediately after. Then allow the soil to approach the dry state before watering it again. Surface sprinklings make the soil sour and then air is excluded, and as the roots of Vines must have air, an open, porous surface soil is of great importance. No manure of any kind must be given after the berries are coloured.

Fire-Heat.—Black Grapes always "finish" better when not subjected to a great artificial heat. If the pipes are kept very hot and the house rather close, black berries will not be of that blue-black colour so desirable. If it is necessary to have the pipes rather hot for the benefit of Muscats, ample ventilation should be given, and where there are early-ripening varieties in the same structure, place mats on the pipes passing under them. If subjected to much heat from pipes, Black Hamburghs, after full maturity, will quickly shrivel and lose flavour as the pulp dries. In the case of Muscats less flavour is lost through shrivelling. Judicious firing is always beneficial to late-ripening Grapes. Avon.

CULTURAL HINTS ON NEW AND RARE PLANTS.

HARDY PLANTS.

Anemone sulphurea.—This is, of course, neither new nor rare, though a rich yellow form of it, brought to an Inner Temple Show from Aberdeen by Messrs. Cocker a year or two ago, so impressed me by its superiority that I had hoped to test it beside my own. Soil occasionally, as well as climate and attitude, play important parts with such things, and those who would be up-to-date must be ever alert if they would garden with the best. This Anemone grows vigorously in clayey loam; less so in loams of lighter texture, though still making good headway. Seeds and division.

Wahlenbergia vincæflora.—A line now concerning this fine plant may cause many to plant it and obtain flowers during the present year. A frail and graceful subject of a foot or so high, it is endowed with flowers of the purest azure blue—a blue that is frequently referred to as "gentian blue," notwithstanding that some Gentians have flowers approximating to deepest violet and almost imperial purple. The plant is so profuse in its flowering, and so inimitable in colour among summer-flowering alpines, that it is a plant for all. Loves warmth, moisture when in growth, and a soil of peaty loam. Cuttings and seeds.

TREES AND SHRUBS.

Genista dalmatica.—The most suitable position for this dwarf shrub is the rockery, for when planted near coarse-growing subjects it is apt to become overgrown. Mature plants are from 3 inches to 6 inches in height, and except in stature closely resemble G. hispanica, the same spiny branches, small leaves and golden flowers being in evidence. It blooms very freely, and at its best is a mass of gold. Light, warm soil is necessary to keep it in good health.

Pierasma quassioides.—This is a medium-sized decorative tree, native of the Himalaya, China and Japan. Its pinnate leaves are from 9 inches to 12 inches long, and are peculiar by reason of their red stalks. The flowers are small and offer no special attractions, but the reddish bark is prettily mottled with brown. Its proper place is in a sheltered position on the lawn where the soil is well drained and of a rich, loamy character. Cuttings of ripened wood may be rooted out of doors.

Rosa Hugonis is the earliest of the species to flower, and though its usual flowering-time is early May, it sometimes happens that blooms are to be found during April. It is a vigorous grower, attaining a height of 8 feet or 9 feet; but the branches have a graceful poise and are clothed with small, elegant leaves. The flowers are about two inches across and yellow in colour. Similar cultural conditions are required to those given to other species. No regular pruning is necessary, and what little has to be done should take the form of thinning during summer.

Fabiana imbricata.—This is not a new shrub, but it is practically unknown, except as a pot plant, outside the South-West Counties. Although it belongs to the Solanum family, the leaves are more suggestive of those of a Heath, for they are very small and arranged closely together on the branches. The white flowers are tubular, nearly an inch long and borne in May. It succeeds as a bush in the open in the warmer counties, but must be planted against a wall elsewhere. Peru is its home, and it thrives in ordinary garden soil.

THE ROSE GARDEN.

THE BEST ROSES FOR BEDS.

AMONG the many recent improvements in Roses, there has been a most decided advance in the section now found so useful for beds or for massing in other parts of the grounds. A far more even and uniform habit of growth has been secured, as well as a better continuation of flowering; indeed, so greatly have we advanced in the last respect that we now have many varieties almost as free-blooming as the majority of other bedding-out subjects. Some little demur may, perhaps, be made about the extra labour and attention needed to keep our beds of Roses perfectly clean and healthy, without which, of course, any other subject cannot give entire satisfaction. Granted that there is some little extra work, are we not fully repaid by a good show of Roses, one of the most satisfying of all flowers whenever they may come? The old idea of mixed beds is dying out to a great extent, and rightly so, for there was not much harmony in growth and bloom when so many varieties were used in one bed or border. Whatever the size of bed or border, two or three varieties should be favoured rather than the uneven mixtures of former times, when, unless very careful selection was given, the varieties so quickly overbalanced one another in vigour and form of growth. This should not be with the grand selection, from all points of view, that exists now. We can have almost any colour, size, or form that may be desired; also plants to flower at any given time between the early June months and often later than the end of September.

Perhaps the most suitable bedders are those of rather less than average height, and all the more so when we avoid those varieties that have a tendency to produce erratic shoots either in the form of an occasional long rod or some side breaks that go completely away from the body of the plants. I would also avoid, as far as possible, any Roses that have a tendency to carry pendent blooms. I allude to what are sometimes styled the Maman Cochet section. Although that beautiful Rose Lady Ashtown is a capital bedder in the younger stages of its existence, when the flowers come more upright with me, it is often too drooping as the plants gain strength and carry blooms of greater substance. I am sorry to say a word against this and some other Roses, but to my mind it is of the utmost importance that all bedding Roses should carry themselves boldly erect, all the more so because we have to look down upon them, and a drooping posture does not show their chief beauty. It is somewhat different when this class of Rose is made use of as standards, or upon walls and fences.

Another point I would like to bring to the notice of intending planters is the great advantages of using those varieties with upright and spreading trusses. La Tosca, Lady Battersea, Peace, Coralina and Mme. Antoine Mari are examples of what I mean. A variety that is not too double is also better suited for the purpose than any that are a long time in opening. The few named above produce a large number of buds, which expand readily and afford a fresh and pleasing show of bloom very quickly after showers and bad weather, and thus have a great decorative advantage over the heavier and slower openers. Moreover, very few of the latter are sufficiently free in blooming to make ideal bedders. Finally, be certain to ascertain the habit and height of growth each variety adopts before you plant extensively. There is not enough consideration given to this, nor to the most important item of how thickly to plant. This must depend entirely upon the habit and character of growth, and I feel sure a little care in these directions will be well repaid.

As some guide to intending planters, they will find the following list of varieties reliable. The colours in many cases would need a rather lengthy description because of their charming blendings, but all may be found in any Rose catalogue that is fairly up to date. Deep maroon reds—Victor Hugo and Etoile de France. Scarlets—Ecarlate, General Macarthur, Richmond and G. C. Waud. Yellows—Mme. Ravary, Duchess of Wellington, Le Progrès, Alice de Rothschild, James Coey, Mrs. Peter Blair and Marie van Houtte. Deep salmon pinks—Caroline Testout, Mrs. R. G. Sharman Crawford, Pharisäer, Killarney and Mrs. A. R. Waddell. Salmony copper—Dorothy Ratcliffe, Edu Meyer, Duchess of Westminster, Jacques Vincent, Lady Pirrie and Lyon Rose. Whites—Molly Sharman Crawford and Mrs. W. H. Stevens. Blush and cream—La Tosca, Viscountess Folkestone, Augustine Guinoisseau and British Queen. A. P.

ROSE ARTHUR R. GOODWIN, A BEAUTIFUL BEDDING VARIETY WITH ORANGE AND BUFF FLOWERS.

A GOOD GARDEN ROSE.

AMONG Roses of recent introduction, few are likely to give more satisfaction in the garden than Arthur R. Goodwin. Although it was only put into commerce in 1910, it now finds a home in a great many gardens, where its earliness and freedom of flowering rightly place it in the forefront of bedding Roses. The National Rose Society's official description of its colour is coppery orange, passing to salmon pink; but this scarcely does it justice, the salmon pink seldom materialising, the fully-opened flowers being more of a buff yellow. In the bud and half-opened stage they are very charming, and when full blown the petals do not drop for some days, a lasting character that is also found in that grand crimson Rose Château de Clos Vougeot. The accompanying illustration, from a photograph taken early in June, shows a bush that was planted last year, and at the time of writing, *i.e.*, August 7, it is again flowering equally as freely. As will be seen, it makes a compact bush, and never seems to be affected by mildew.

A. B. ESSEX.

ARE UNWIELDY NAMES DETRIMENTAL TO ROSES?

THIS matter was brought rather prominently to my notice by the remark of a large grower, who said that the name of a certain Rose "absolutely kills the variety," also that he did not believe it would ever become popular under the circumstances. I am quite averse to a long, ungainly name, but I imagine if a Rose possesses real merit, its name will not prevent it being grown. I remember when Frau Karl Druschki came out there was a cry raised against its name, but it is now in almost every garden in the land, and familiarly known as Frau Karl or in the trade as Druschki.

I remember the introduction of a French Rose named Fiançailles de la Princesse Stephanie et de l'Archduc Rudolphe. Of course, this was difficult, but if the Rose had any real merit it would still be grown to-day. I daresay to foreign ears Mrs. Wakefield Christie Miller

sounds just as bad as many of the German names of Roses do to us.

What I do protest against is dual names. We have now two Geoffrey Henslows, which must lead to confusion. I think, also, that we should protest against altering a name from that given by the raiser. The raiser of Mme. Caroline Testout would never think that his Rose would be known and listed as Caroline Testout, or M. Joseph Hill as Joseph Hill, and I do not see that we are warranted in so doing. The whole subject is one worthy of our highest authority, the National Rose Society, taking in hand and giving rules for our guidance; but in the matter of deleting the Madame and Monsieur they themselves have set a bad example. We want something definite to go upon. Are we to catalogue a Rose under the name as given it by its raiser, or are we justified in abbreviating it? Perhaps some of your readers will kindly give the benefit of their views. I hope I shall not be misunderstood. I am quite in agreement with the giving of short, euphonious names, and would welcome the rule most cordially; but I do not consider a bad name is sufficient excuse for driving, as it were, a good Rose from our lists, neither do I think it will have this result with all right-thinking individuals. Danecroft.

FLOWER GARDEN.

PRIMULA COCKBURNIANA HYBRIDS.

I AM much interested in your note on the above in The Garden for June 28, page 324, and especially to that portion of it which contains the statement that, by rights, the name of the P. pulverulenta × cockburniana hybrid should be P. Unique, and the name P. Lissadell Hybrid should go. Your writer evidently assumes that the plants are identical; but is this really the case? I grow no fewer than four forms of the hybrid: (1) Veitch's Unique, (2) P. Lissadell Hybrid, (3) a hybrid I raised here, (4) a chance self-sown hybrid from the garden of Colonel the Hon. Frederick Shore of Thomastown. None of these forms is absolutely identical. Veitch's Unique seems to be almost intermediate between its parents; P. Lissadell Hybrid seems slightly nearer P. pulverulenta. P. Unique is possibly a shade brighter, but P. Lissadell Hybrid makes up for any deficiency in colour by an added strength of growth and constitution, no doubt acquired from its slight addition of pulverulenta blood. My own hybrid has much larger flowers, but they are rather washy in tone, and Colonel Shore's hybrid is by far the best I have seen, practically identical with P. pulverulenta in growth and constitution, while retaining the brightness of P. Unique and P. Lissadell Hybrid.

But putting these two latter forms aside and returning to P. Unique and P. Lissadell Hybrid, the plants I saw growing at Lissadell all possessed that extra vigour of growth and constitution so noticeable in the plants they sent to me, and in the many gardens where I have seen the hybrid growing, this stronger form is the most prevalent, and one can but assume that the majority of the plants of this hybrid which are grown are really P. Lissadell Hybrid and not P. Unique. This conclusion is not so improbable as it seems when one considers all the circumstances. P. Unique was raised by Messrs. Veitch under conditions not particularly suitable for the raising of moisture-loving Primulas. The climatic conditions of that part of the South of England in which the nurseries are situated are against them. On the other hand, P. Lissadell Hybrid was raised in the West of Ireland under conditions of temperature and moisture almost ideal for Primula propagation; consequently, it increased very rapidly, and the growers, having a very large stock, were able to put it on the market at a price about thirty-three per cent. cheaper than P. Unique; and my theory is that nurserymen must have bought it up largely and sent it out as the higher-priced P. Unique. In no other way can I account for the preponderance of the stronger-growing form which obtains in most gardens. I see the difficulty in retaining two names for plants which are so very similar, but it seems rather hard lines on Lissadell, which has given us a plant of such excellent constitution, to absorb its hybrid absolutely. All I can suggest is that as we have a Dianthus atrorubens Carton variety, so at least let us have a P. Unique Lissadell variety.

Knapton, Abbey Leix. Murray Hornibrook.

A BED OF LILIUM BROWNII, A BEAUTIFUL DWARF LILY FOR THE OUTDOOR GARDEN.

A BEAUTIFUL GARDEN LILY.

(Lilium Brownii.)

One could hardly wish for a more glorious sight than that of a group of Lilium Brownii on a sunny July morning, when the flowers are at their best. It is strange that this fine Lily is so seldom seen, except perhaps in the greenhouse or conservatory. It is certainly worthy of extended cultivation as a garden flower, and by way of emphasising this fact it may be pointed out that the bed of this Lily illustrated on this page has flowered well for the last three or four years, during which time the bed has been undisturbed. Like other garden Lilies, it is well adapted for growing in beds with peat-loving shrubs, such as Azaleas and Rhododendrons. This Lily attains a height of 3 feet or 4 feet. The flowers are white within the trumpet and of a brownish purple hue outside, making it a very desirable and attractive subject.

WORK AMONG THE DAHLIAS.

Although the Dahlia has good-sized, fleshy tubers, as a rule, few plants show signs of distress sooner in dry weather. The blooms suffer in proportion, some of them not fully developing when the roots of the plants are very dry—dry enough to cause the leaves to become flabby when the sun shines on them. Water must be given in sufficient quantity to maintain the soil in a moist state as deep as the roots go. Twice every week apply manure-water in a weak state, and the general appearance of the plants will be most satisfactory. On the younger shoots that bear buds the resultant flowers will be very neat and refined, and the supply of bloom will be maintained well into the autumn.

Earwigs.—These are a serious pest in some districts, and in few gardens more so than those in towns. More insect pests are found in town gardens than in country ones. The trapping of earwigs in moss and hay placed in empty flower-pots and between two dry boards placed on the ground at the foot of the walls and fences, and also under the plants, and the use of short lengths of Beanstalks are all useful methods of lessening the numbers of the enemy, but I am a firm believer in the employment of the fading Dahlia blooms for the same purpose. Take off the blooms and fix them between the stems of the plants about a foot above the ground, and more earwigs will be found in them every morning than in all the other traps. Shake out the insects, destroy them, and replace the blooms until too much faded to be of real use. Avon.

COLOURED PLATE.

PLATE 1475.

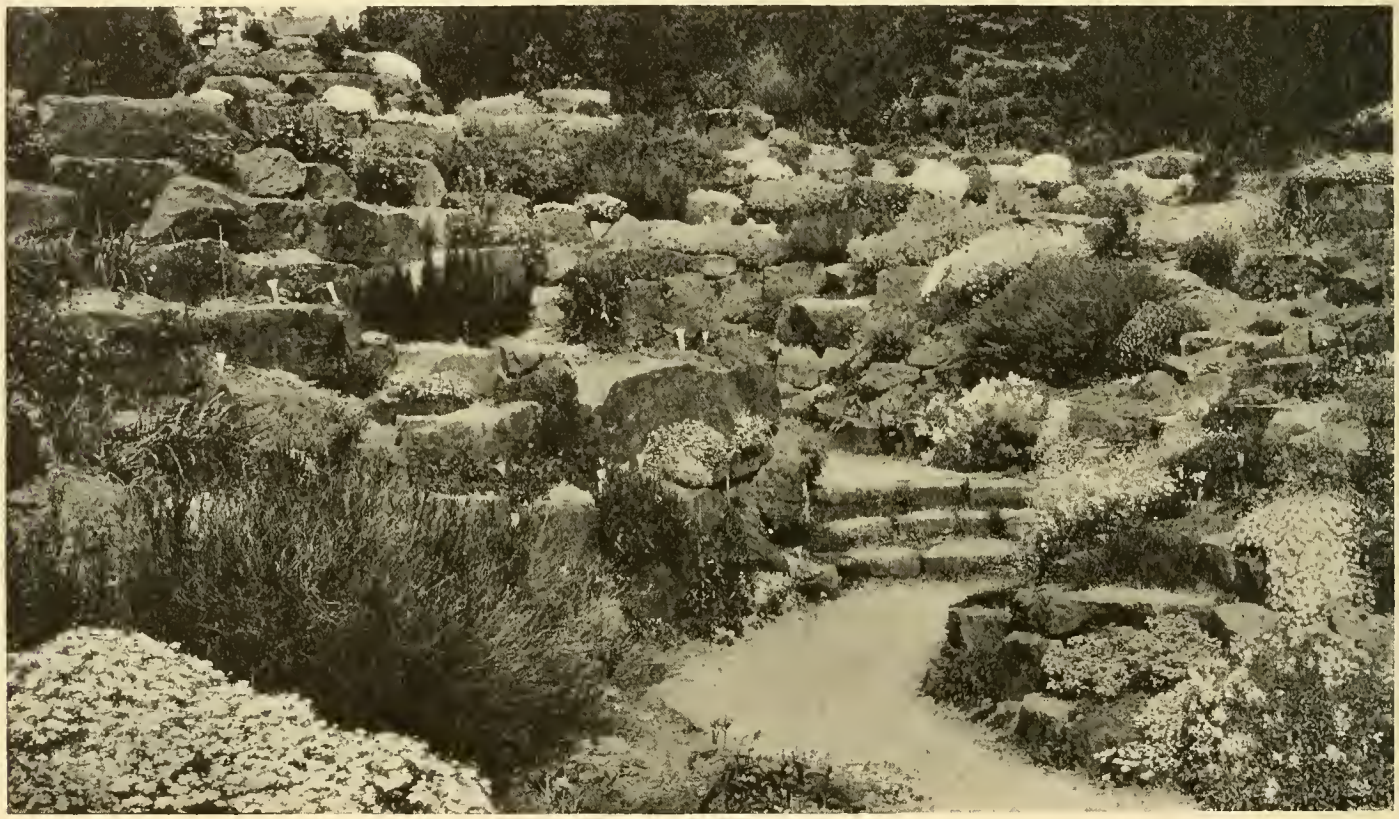
FOUR GOOD DAFFODILS.

FOUR very pretty flowers are brought together in the coloured plate which is presented with this issue of The Garden. Two of them are comparatively old, and two of them—the two varieties on the right-hand side—are new. I am unaware what the price of Chamois is likely to be, but none of the other three is so expensive as to be prohibitive if one yearly buys a few bulbs of a value of from ten to twenty shillings. St. Olaf was introduced to the public by its raiser, the Rev. G. H. Engleheart, at the Royal Horticultural Society's Daffodil Show of last spring. Few people, however, saw it on his stand, for it was very quickly bought by Messrs. Barr and Sons, who displayed it for the rest of the two days in their choice collection, where it more than held its own as an attractive and satisfying flower. Readers may remember that in my account of the show I recorded the high opinion that the raiser himself had formed of it. It gave him, he said, more pleasure than any other there. I at once fell a victim to its charms, and it was not very long before I secured a few for my own collection. The flower, as may be seen, belongs to the type of what in old-fashioned nomenclature might be styled an Engleheartii Leedsii—that is, it is a flat-cupped or saucer-crowned bloom with the pale buff colouring indicative of the group. The diameter of the perianth is 3⅛ inches, and that of the flat corona, eye or centre (whatever name we give it) is 1¼ inches. I am most anxious to see its behaviour as a growing plant, and after I have wintered it and springed it in my garden I will doubtless have something more to say about its behaviour there. I may be deceived, but I cannot help thinking, from its general appearance, that it will be a very good variety.

Chamois, as may be seen, is a flower of a different type. Instead of rounded, broadly overlapping perianth segments, we get them longer and more pointed, while the cup has a pronounced rosy salmon tone in its colour. As I can find no record in my notes about it, I cannot do better than quote *in extenso* the description which will appear in the list of Messrs. Barr and Son, who have acquired the stock from the raiser, Mr. Cave: "Leedsii variety—a very elegant and beautiful flower, measuring 3½ inches across, perianth pure white and elegantly twisted. Crown open and fluted, shaded salmon on a white ground with a pale green centre. Height 13 inches."

Coming now to the two older varieties, we have in Dresden a good example of that not very large class of Poets, the all-red eyes. The perianth segments are round and overlapping, and the eye is very flat and very red. The whole is a good circular flower, useful either for showing or for cutting for vases, as the stem attains the respectable length of 16 inches to 18 inches. Two years ago, I find, I began to make a list of the varied eyes which are found among the Poets, and to assign the different varieties to one or another of the types. I was surprised to find how few could be said to be all red. The only ones I then put down as coming under this description were Ibis, Acme, The Bride, Algernon Swinburne, Muriel, Chaucer, Virgil and Dresden. I used to think Horace red-eyed, but it is not so now. I am doubtful, too, if Virgil should be in the list. Red Emperor is one of those flowers which have been assigned a name of which "no fellah can understand" the why and the wherefore except on the principle of contrariety. It is not red and it is not an Emperor. If ever a flower can be said to have an orange eye, this one can. I describe it in my notes "pure orange flat cup." It is this pretty colouring which so much appeals to me, as getting away from the more usual red shades. The perianth is white and reflexing. A measurement taken at the same time that I made the above note says 2⅝ inches by 1 inch. It blooms about the same time as Occident.

Joseph Jacob.



A VIEW IN MR. HANBURY'S ROCK GARDEN AT BROCKHURST, EAST GRINSTEAD.

OUR SECOND PRIZE ROCK GARDEN.

BROCKHURST, EAST GRINSTEAD.

PORTIONS of the rock garden in process of construction at Brockhurst, East Grinstead, the residence of Frederick J. Hanbury, Esq., form the subject of these illustrations. Rock was discovered on the site about three years ago when planting Rhododendrons, and it was at once decided to commence a new rock garden in this part of the grounds. Begun on a small scale, the scope and design were soon altered when it was found that the stone increased both in quality

FOUR GOOD DAFFODILS.

1. Dresden. 2. St. Olaf. 3. Chamois. 4. Red Emperor.

Hudson & Kearns, Ltd., Printers, London, S.E.

ANOTHER VIEW IN THE NATURAL ROCK GARDEN AT BROCKHURST.

and quantity as the hillside was pierced. Fortunately, the quarry where the best stone was found was nearly at the top of the hill, and from it blocks of five tons and downwards were taken down the hill on rollers or a small trolley, and were used in the construction of the parts of the rock garden shown in the illustrations.

In order to utilise the quarry itself as a part of the scheme, a winding ravine has been cut through the solid rock to connect it with the lower portions. Here the cliffs are some thirty feet high, and the effect is enhanced by a high background of rock above the quarry, so that stone will be seen against the sky-line. A dripping-well is another feature in the quarry itself.

The mounds in the portion shown in the illustrations were formed by removing the top spit of the field, digging out paths, and utilising the poorer sandy soil to form the foundation of mounds. Much useful stone was also found near the surface. Owing to the winding nature of the paths, every aspect is provided for the plants. There are rocky pools and a bog garden by the main walk which is an eighth of a mile long.

About the centre of the rock garden a beautiful effect has been obtained by simply denuding the natural rock of the soil above, and on this portion a considerable collection of Sempervivums and Saxifrages has been planted. At the base of this portion, and where the rock dies into the ground, a moraine is now being constructed, with water flowing beneath.

The rock is a pure sandstone, in which there are large natural vents, and the surface of the stone in these vents is not only pleasing in its curves, but often beautifully stained with iron. No blasting was necessary for getting it out. The general trend of the rock garden is towards the south-west, and the site selected is fortunate in being surrounded by Firs and other conifers and Birches, the whole commanding a beautiful view towards Ashdown Forest. THOMAS MATTHEWS.

Brockhurst, East Grinstead, Sussex

THE GREENHOUSE.

ON SCENTED PELARGONIUMS.

Some ten years ago, in an idle moment, I mounted a certain hobby, allured mainly by the fact of it being of an almost forgotten breed. On that delightful mount I have ambled for many a happy hour through the quiet lanes of a country life. It has led me along the pleasant paths of many new friendships. It has also carried me more than once on an exciting chase, ending sometimes in a successful capture, sometimes in a blank day and bitter disappointment. But I never imagined when I started riding my hobby that I should be landed in front of this extremely big and alarming fence, viz., giving a lecture before the Royal Horticultural Society on the subject. However, I suppose the only thing to do is to screw up my courage, throw my heart over, and hope to surmount the obstacle without making too big an idiot of myself, while craving your kind indulgence for a very amateurish performance, for, alas! I am no scientist. Mr. Wilks has asked me to give you my experiences on scented Pelargoniums. That sounds rather a large order, for during ten years and more one goes through many and varied experiences. I think perhaps the best way to carry out his orders will be to divide what I want to say into sections, and I will try to be concise: 1. History. 2. Collecting 3. Classification. 4. Cultivation.

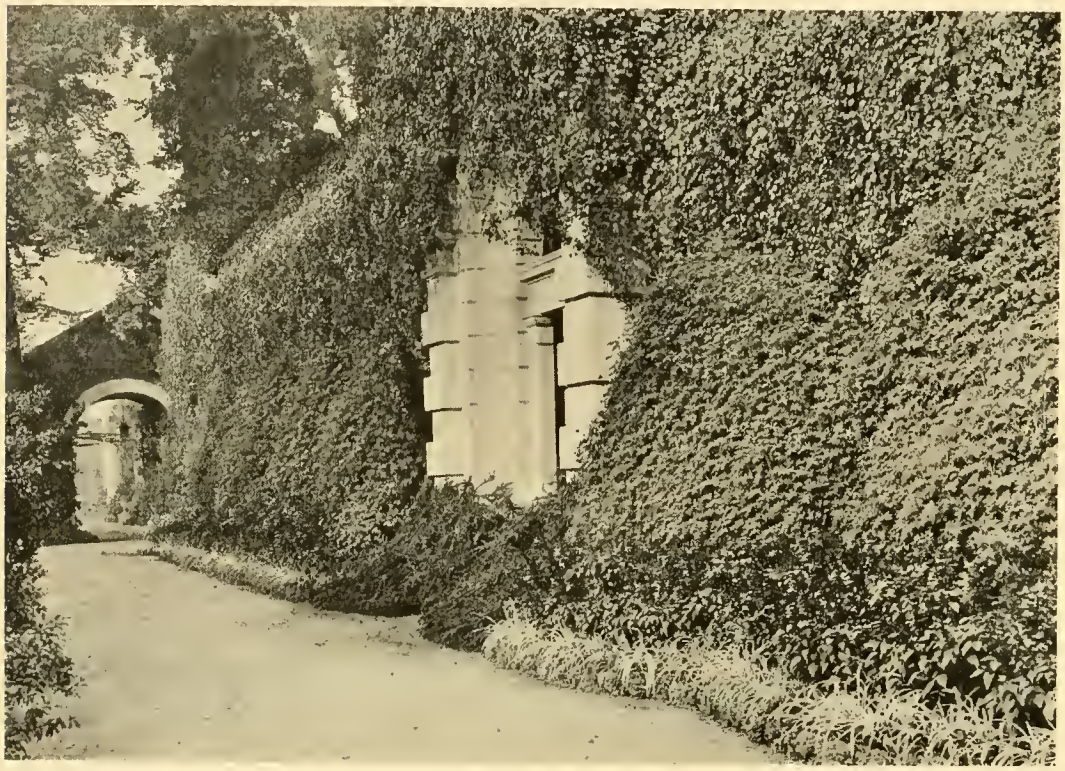
History.—You perhaps all know how Cape Pelargoniums came to be introduced into England. I mentioned the facts, as far as I know them, in my article in the Royal Horticultural Society's Journal, Vol. XXXVII. But as probably few read it, forgive me if I briefly recapitulate them here.

Scented Pelargoniums seem to have been imported chiefly from Cape Colony, the native country of most of the species known to us. They came to

LARGE BOULDERS USED WITH FINE EFFECT AT BROCKHURST, EAST GRINSTEAD.

England, presumably in the case of the earliest introduced (1690) specimens, by way of Holland, the Dutch being then in possession of the Cape; in or after 1795, probably direct to this country, the English fleet having been sent out in that year to support the Dutch supremacy at the Cape. Constant intercourse went on from that date between the two countries, until in 1815 Cape Colony was finally ceded to England.

That, I think, will quite account for the following facts. From 1815, the date of the Cape annexation, all through the early years of the nineteenth century, there was a steady supply coming direct into England of rare and curious species of Pelargoniums and their near relatives—Campylias, Ciconiums, Dimacrias, Erodiums, Geraniums, Grenvilleas, Hoareas, Isopetalums, Jenkinsonias, Monsonias, Otidias, Phymatanthuses and Seymourias. But with all these off-shoots, if I may so call them, of our subject, we have little to do, though one or two I shall have to mention later on. From 1820 onwards nurserymen and private collectors seem to have rivalled each other in procuring rare specimens and producing new and beautiful hybrids, until at last from these charming and elegant—I use the last adjective advisedly—plants were evolved the series we know as show or fancy Pelargoniums. If you look through Sweet's "Geraniaceæ," as I have been privileged to do lately in the Lindley Library, you will be astonished to notice the number of fine collections that existed in English country houses at the date of that standard book, viz., 1820–28. To mention a few in my part of the world only, the West Country. There was one at Longleat, the Marquis of Bath's; one at Haldon, the seat of the Palk family; another at Luscombe, Devon; a world-famous one at Stourhead, formed by the Wiltshire antiquary and scientist, Sir Richard Colt Hoare, after whom a whole series of Geraniaceæ, the Hoareas, were named; and, finally, the Earl of Ilchester's at Melbury House, Dorset, which is not mentioned in Sweet's "Geraniaceæ," but a copy of the catalogue of which I possess, comprising 111 varieties, dated 1817. Now, of all those collections in houses of which I know something, not one survives at the present day, and I have no doubt that it is the same in other parts of England. Where have all those rare and valuable specimens gone? My theory is that they were ousted by the mid-Victorian craze for Zonal and fancy Pelargoniums, of the evolution of the latter of which I shall have something to say under the head of "Classification." My idea is that the existing survivors of the older and far more interesting Cape and scented Pelargoniums are those which lingered on undisturbed in out-of-the-way and old-fashioned gardens, such as Mr. Dorrien-Smith's at Tresco Abbey, Isles of Scilly, the only place I know where the original collection is *in situ*—though I am told that Lady Scarborough's collection still flourishes in the original home of Pelargonium Scarborovæ Countess of Scarborough—or which, when exiled from the fashionable garden of the day, found a home under humbler roofs, often those of cottages. Another possible reason for the disappearance of many beautiful varieties may be that, being hybrids, they have just died out in the course of years, or reverted back to the original stock, as we see so many modern hybrids do. Still, one would think that cannot have happened to over three hundred varieties, which is the number, roughly speaking, of those of which I can so far find no trace. But even Sweet in 1824 says in "Geraniaceæ," Vol. III., page 299, *à propos* of P. × odoratissimum, "It is now become rather scarce, as are those of the old original species, none of them being now much cultivated, except a few that are thought essential for producing the finest hybrids." My own idea is that there are many more to be found in country places by those who keep their eyes open. Only last month I came across two beauties in my own village, after having, as I thought, explored every garden and window in the place. Still, up to the fifties there must have been people who were interested in their cultivation, for those years saw the invention of the Shrubland series—Shrubland Pet, Shrubland Rose, Shottisham Hero, and possibly my Lothario and Touchstone. They were the productions of the well-known horticulturist David Beaton, who was, I believe, gardener to Sir William Middleton, Shrublands, Ipswich, hence the name of the varieties. So much for the history. And let me sum up this section with this bit of advice: "Keep your eyes open wherever you go, especially when passing cottage windows."



LARGE TRAINED PLANTS OF SCENTED PELARGONIUMS AT GUNNERSBURY HOUSE, ACTON.

2. Collecting.—The first step in starting a collection is to follow the classic advice of Mrs. Glass' cookery book, "First catch your hare." As to the way to accomplish this. All collectors are proverbially brazen, and I myself plead guilty to having been extremely—shall we say metallic?—in some of my doings. Harmless old ladies have been assailed on their own hearthstones and blandished into selling treasured plants. Perfect strangers, who have for their sins possessed a coveted specimen, have been bombarded with begging letters. Kind friends have been badgered till they must have been sick of the sound of my name. And all have treated me with consideration and courtesy, with the exception of one old woman in a Belgian village, who drove me from her door with contumely, asking if I thought she was going, for the sake of my dirty silver, to rob "Le Bon Dieu" of a plant—and such a plant—which was destined to figure in the Corpus Christi Festival the following week. As I draw the line at committing sacrilege, even to get hold of a new specimen, I departed with my tail between my legs, and regret harrowing my soul. So perhaps my experience No. 2 may be summed up thus: "Don't stick at trifles, and don't be shy of asking." For up till now it has been impossible to buy specimens from nursery gardeners; either they have not got them or those they have are named wrongly. The only chance hitherto has been the courtesy and charity of fellow-collectors, which I have always found to be unbounded, provided one asks politely and *personally*. I have reasons of my own for emphasising this last point.

(*To be continued.*)

[The article of which the foregoing is a portion is by Miss Troyte-Bullock, and is reprinted from the Royal Horticultural Society's Journal by kind permission of the Council. The illustration on this page represents some very large trained specimens of these old-fashioned, sweet-scented plants in front of Mr. Leopold de Rothschild's residence at Acton, where the head-gardener, Mr. James Hudson, V.M.H., grows them to perfection.—Ed.]

GARDENING FOR BEGINNERS.

HOW TO "TAKE" CHRYSANTHEMUM BUDS IN AUGUST AND SEPTEMBER.

THE cultivator of Chrysanthemums has a really busy time from the insertion of the cuttings to the development of the blooms. Each stage of growth presents its interesting features, but none is more absorbing than that of the development of the buds and flowers. For a period of about nine months an effort has been made by the cultivator to secure strong, well-matured stems and leaves. If the slightest mistake be made at bud-taking time, a whole flower or a plant may be lost.

How to Take Crown Buds.—The crown bud is one which is surrounded by shoots, and if the crown buds of late-flowering varieties show during the first half of the month of August, the flowers resulting will usually develop early in November at the same time as those of earlier-flowering varieties. If the cultivator fails to "take" the crown bud of the late varieties in August, the later-formed terminal buds will be useless for exhibition purposes. In the case of the incurved and also of the single-flowered varieties, very early-formed buds develop into coarse blooms, so that it will be advisable to pinch out the buds of these that form during the first half of August, and depend on those formed on later-grown shoots. Fig. A at No. 1 shows the stem of a shoot bearing a crown bud. Side shoots have already been removed from the axils of the leaves at No. 2, and it now remains for the cultivator to pinch out the shoots Nos. 3, 3, just when they are advanced enough to be quite clear of bud, stem and main leaf. No. 4 shows the crown bud. The process of "taking" should extend over about six days; each day one or two side shoots must be pinched off, then the bud will continue to grow and not be checked. Nos. 5, 6 and 7 show the gradual swelling of a healthy bud. It is not wise to remove side shoots too soon, nor is it advisable to allow them to continue growing too long, else they will overpower the crown bud, leaving it stunted while they grow on. No. 8 shows side shoots left on the stem too long, and as a result the bud shrivels, as shown at No. 9. No. 10 shows the swelling stem, No. 11 the bud grown to its fullest extent, and No. 12 the same bud drying up while the main leaves increase in size quickly. Thus neglect in timely taking of the bud results in the loss of a bloom.

A SERIES OF CROWN BUDS. THE MANNER IN WHICH THEY SHOULD BE TAKEN IS DESCRIBED IN THE TEXT.

How to Take Buds of the Single-flowered and Terminals Generally.—Very early buds of single-flowered Chrysanthemums develop into rather coarse blooms on short stems, with flower petals very short, too, as shown at No. 1 in Fig. B. Terminal buds and those taken late, in the case of the single-flowered varieties, develop into refined flowers, possessing long petals of a rich colour, as shown in No. 2. At No. 3 there are some terminal buds shown; the central one—the largest—No. 5, must be retained, and the surrounding ones, Nos. 6, 6, pinched off. Nos. 4 and 7, respectively, show the terminal buds swelling up freely. Terminal buds and those of the single-flowered varieties are usually large and flat.

Damaged Buds.—If the side buds in a cluster of terminals are torn away, bringing with them some of the bark of the main stem, as shown at No. 8, one side of the central bud will only half develop. If insect pests, especially earwigs, eat out the centre of the bud, as shown at No. 9, then the fully-developed bloom will contain a number of short petals. When the stem is eaten just below the bud, as shown at No. 10, the resultant flower will be uneven in form, one side being larger, with stronger petals, than the other. It is advisable to stop the feeding of the plants for about a week while engaged in "taking" the buds.

MAKING THE MOST OF TERMINAL AND DAMAGED BUDS.

PLACING WINDOW PLANTS IN RAIN.

One frequently sees Ferns, Aspidistras and Palms, also other kinds of plants, put outside during rain showers so that the leaves may be washed clean. It is a very good plan to treat the plants in this way when they are placed in a shaded position. The mistake generally made is to expose the plants to sudden bursts of strong sunshine as well as to the rain, with the result that many leaves which have never before been exposed to the sun's rays get badly scalded. There would be no risk if the plants were taken indoors again before the sun shone, or if they were put in a position not exposed to the sunshine. G. G.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

General Work.—Owing to stress of work during the early summer months, the outlying parts of the pleasure grounds are sometimes apt to get a little neglected, but every effort should be made to keep up with the work Practically the whole of the evergreen shrubs, such as Hollies and Laurels, will now have dropped their leaves, and a good raking through all the shrubberies should make them tidy till the more general fall of the leaves from the deciduous trees.

Pruning.—Though I am not in favour of late summer or autumn pruning, some of the more irregular-growing shoots may be pruned to keep the plants in a shapely condition; but nothing like a general cutting should be given, or the subjects so treated will look stiff and unsightly during the whole of the winter.

The Flower Garden.

Propagating Zonal Pelargoniums.—The work of propagating Zonal Pelargoniums should now be commenced in earnest, and as the plants have made very good growth this season, there should be no dearth of good cuttings. To preserve the beds in good condition, the cuttings should be taken off carefully, and it may be advisable to go over the beds twice at intervals of a fortnight, rather than to take off too many cuttings at once. Whether they are to be propagated in pots or boxes must be decided by the individual, taking into consideration the accommodation for them during the winter months. Pots, I think, are preferable, and a greater percentage of good plants results from this method. Paul Crampel, being a somewhat strong grower, is apt to become drawn if several are rooted in a pot or in boxes, so I prefer to strike this variety singly in small pots.

The Scented Geranium Lady Plymouth is a first-class bedder, but to be really successful with its propagation it requires a little heat and moisture, which for most varieties is quite unnecessary, though it is wise to stand the cuttings in frames or in some such position where they may be covered in the event of heavy or continued rains.

Melianthus major is a fine glaucous-leaved plant for summer bedding, and, to obtain good specimens for next season, seed may be sown at any time now. After sowing, place in a warm frame, and pot off singly when large enough to handle.

Eucalyptus sown now also makes nice plants from 3 feet to 4 feet high for next season. Treat as advised for Melianthus, and in neither case is much heat necessary during the winter months.

Plants Under Glass.

Pelargoniums for Winter Blooming.—These are now thoroughly well established in their flowering pots, and though they do not require much in the way of manure, a little soot-water will just keep them active and the foliage a good colour. If bloom is required in October, the shoots should not be stopped after about this date, though it is advisable to go over the plants now and stop the strongest of the shoots.

Regal, Show and Fancy Pelargoniums that have been partially dried off may be turned over on to their sides to complete the drying off, ready for pruning the first or second week in September.

Celosias.—The late-flowering batch will now be producing their plumes. If in moderately small pots, feed them regularly, reducing the amount of atmospheric moisture as the plumes develop, when they should keep in good condition for a considerable period.

The Kitchen Garden.

Winter Onions.—During the next few days the winter Onions should be sown, and where the soil is heavy it is wise to lighten it as much as possible with wood-ashes, leaf-soil and light manure. Needless to say, it should be well prepared by trenching and manuring, breaking it up as finely as possible before sowing. For early work White Leviathan is a good variety, while for later crops Ailsa Craig, Giant Rocca and Cranston's Excelsior are all excellent varieties.

Coleworts and Other Greens.—The ground thus cleared may be levelled over and planted with Coleworts, late Savoy and winter Cabbages, as one generally finds that they do not get too much winter greenstuff, especially where the kitchen garden space is limited.

Fruits Under Glass.

Summer-Pruning Peaches.—Early and some of the midseason Peach trees will now be better for having most of the old fruiting wood taken out. This must not be done carelessly or by an inexperienced person, as when taking this wood out due consideration must be given to extending the branches where the trees are not filling all the available space. Where the trees are full grown, the summer pruning is a much easier matter, and nearly all the fruiting wood may be taken out, thus giving much more light and air to the fruiting wood of next year. Very early forced trees are not benefited by too much sunlight, and a little shading on the glass during very hot periods may be more of an advantage than otherwise. I have noted in a narrow Peach-house, where Chrysanthemums are placed close to them in September, thus robbing them somewhat of light, that the flowers have been much more abundant and stronger the following spring.

Hardy Fruit.

Wasps.—Though these are not so plentiful as in some seasons, steps should be taken to destroy all the nests in the neighbourhood of the garden. In addition to this it is advisable to partly fill bottles or gallipots with stale beer, treacle, &c., and hang them on the walls or trees where fruit is ripening, thus getting rid of many of them before they do much damage to the fruit.

Preparation of the Ground for Strawberries.—This should be done as early as possible, so as to allow the soil to consolidate a little before planting. If a piece of ground that has been well trenched and manured for Peas is chosen, it should not be necessary to more than single dig it, first giving it a good dressing of wood-ashes, bone-meal and soot. Heavy ground should be broken up as finely as possible during the operation, so as to facilitate planting.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Propagating Geraniums or Pelargoniums.—A start should now be made with the propagation of bedding Geraniums. With the exception of variegated-leaved sorts, which have almost gone out of cultivation, they should be placed in boxes of sandy soil and stood in a sunny position in the open air. In selecting the cuttings, give preference to those which have been well ripened by exposure to air and light. Give one good watering to settle the soil about the cuttings, after which keep them rather dry.

Colchicums.—This is the best time to plant these beautiful autumn flowers. The following are all worthy of a place: C. autumnale flore pleno alba, C. flore pleno roseo, C. Bornmülleri, C. giganteum and C. speciosum. C. autumnale (Meadow Saffron) is suitable for planting in quantity about the shrubberies or the wild garden.

Iceland Poppies.—If left to themselves, these dainty flowers reproduce plentifully. The careful cultivator, however, selects his seed and sows it about this period in a box, pricking off the seedlings in due course. By this system the orange and newer art shades will be increased, also the doubles or semi-doubles, some of which are very attractive.

The Wall Garden.

Watering must still have attention, especially if it is a double-faced wall. The water should, however, be applied through a fine rose or spray to prevent it from running.

Tidying Up.—The bulk of the subjects here will now be past their flowering period, so the whole should be overhauled and all decayed flower-stems cut away.

The Pleasure Grounds.

Lawns.—If coarse weeds such as Plantains reassert themselves, they should be promptly cut out with an old knife. If drought occurs, watering must still be resorted to, and happy are those who possess one or two standpipes, with a good length of hose and an abundant supply of water.

Woodlands.—In places of any size there is generally some amount of woodland beyond the lawns where the scythe is applied two or three times a year. If this is gone over now, it will not give further trouble this season, and the benefit of the operation will be fully appreciated when leaf-raking commences.

Plants Under Glass.

Sowing Annuals.—Sowings of Schizanthuses and Clarkias should now be made for a spring display. Sow thinly in pans or boxes in a cold frame. Water before sowing, and afterwards cover the receptacle with a pane of glass or a sheet of paper to conserve the moisture till germination takes place. Till then shade from bright sunshine, after which gradually inure to full light. Clarkia elegans Firefly and C. e. Salmon Queen both deserve attention.

Hydrangeas.—Many growers propagate in July. I prefer August, as by this time the shoots have ripened better and one is more certain of securing the latent flower-bud, without which a season will be lost. We root them in 2-inch pots of sandy soil stood in a big, shallow packing-case, covered with sheets of glass, in a Melon-house from which the plants have been removed. Maintain a fairly brisk temperature and keep close and shaded till roots are formed. H. hortensis takes some beating when well grown, but some of the newer varieties should certainly be grown. There are now a number of these, but I can confidently recommend Radiant, Mousseline, Mme. E. Moullière and La Lorraine.

Malmaison Carnations.—As soon as the layers begin to show signs of growth, they should be severed from the parent plant and potted up into 4-inch pots. Good substantial loam with a little sand and wood-ashes will be found a suitable compost at this stage. Sprinkle a little soot over the rough material covering the drainage.

Fruits Under Glass.

Late Peaches.—See that these are provided with a net to catch the fruits, which are so easily damaged. In pulling these, the fruits should be surrounded by the fingers and thumb, and unless they yield to the slightest wrench, they are not fully ripe.

Orchard-House Fruits.—Apples and Pears ripening their fruits should have these encased in small nets to prevent damage by falling. Remove any leaves which obstruct the sun's rays from the fruits. The trees must not be allowed to become dry at the roots, and pot trees will still require close attention, as water may sometimes have to be applied twice daily.

The Hardy Fruit Garden.

Matting Currants.—Where it is desired to maintain a supply of these as long as possible, part of the crop on a north wall should be matted to exclude the light. By this means the crop may be maintained in good condition for several weeks yet.

Planting Strawberries.—Strawberries may still be planted, but unless the work is carried through during the ensuing week, there is no hope of the plants yielding a crop next season.

The Vegetable Garden.

Vegetable Marrows. — The shoots require judicious thinning and stopping to concentrate the energies of the plants on the fruits to be retained. If there is a superabundance of fruits, the surplus can be used as a preserve, with the addition of some Apples to give them piquancy.

Kidney Beans.—At this period there is often a glut of these. Where this is so, the surplus can be preserved between layers of salt in a stone jar, where they will keep for quite six weeks. They can, of course, be preserved for an indefinite period by the modern bottling system.

Pickling Onions should now be harvested, and none but small, well-ripened bulbs should be retained for that purpose.

Onions for general use, if inclined to grow too persistently, should be gone over and the foliage pressed down by means of an empty, flat-bottomed vegetable basket.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

CARNATIONS GOING WRONG (*Wales*).—The plants have been kept in too moist an atmosphere. Carnations succeed best when the atmosphere is kept dry about them and the soil has a sufficient degree of moisture. Yes; we think you will find a weak solution of sulphate of potash useful for use on your pale-leaved Carnations (about one ounce to two gallons of water, used once a week for a time). Water the Roses with a weak solution of sulphate of iron—about one ounce to one gallon of water. This will probably restore their green colour.

PROPAGATING ANCHUSA (*M. A. B.*).—Division of the rootstock in early spring and root propagation in winter-time are the only methods of increasing particular varieties of the above-named plant. The latter consists of digging up the plant, divesting it of some of its roots, cutting them into inch-long lengths and inserting them in sandy soil in boxes or pots, leaving the top of the cutting just visible above the soil. You should obtain "The Hardy Flower Book," by E. H. Jenkins, price 2s. 9d., post free, from this office, wherein this and other methods of propagation are treated fully.

INULA GLANDULOSA AND COLUMBINES (*Northold, R. B. A.*).—The Inulas may be increased by division in March or April, by seeds sown soon after ripening, and by root cuttings during winter. The two former usually suffice for all ordinary purposes. Aquilegia chrysantha is a tall-growing, yellow-flowered species, and one of the most graceful of early summer-flowering herbaceous plants. There are, however, hybrid strains between this and the other species which are also highly ornamental and may be freely raised from seeds. The popular name Columbine applies to the whole race.

TREES AND SHRUBS.

BOX EDGING TO CUT (*T. V. H.*).—Now is a good time to cut Box edging. There will then be time for short new growth to be made before winter. This will appear neat and bright all the winter. Do not cut too low, or the edging will be made brown and unsightly—only an inch, more or less, to make it appear even and straight.

WISTARIA LEAVES MUTILATED (*K. A. P.*).—The Wistaria leaves appear to have been eaten by the leaf-cutting bee. This bee removes circular pieces from the leaves of various plants for the purpose of making its nest. Spraying the plant with arsenate of lead would, no doubt, be an aid in preventing its attacks; but the bees, it should be remembered, are quite useful insects on the whole, and unless the damage done is really serious, it would be well to avoid killing them.

TREE PÆONIES (*S. W.*).—We advise you now, or in the September coming, to lift the plants and give them a sheltered westerly position. In this the ill-effects of spring frosts—about the only drawback to a good flowering that the plants, once they are established, suffer from—would be less felt, the sun reaching the plants too late in the day. In the easterly position you now have, the sun is upon them early; hence the trouble. Prepare the new position well by using sand and old cow-manure to a depth of 2½ feet, and let the drainage be also good. The Tree Pæony, like the herbaceous sorts, does not like frequent disturbance. Take care, too, in the replanting that the plants are buried fairly deeply, so as to get them upon their own roots as early as possible. Usually these Pæonies are grafted, and if not buried below the union between stock and scion, only an enfeebled root action is likely to ensue.

ROSE GARDEN.

CLIMBING ROSES (*A. H.*).—Liberal applications of liquid cow-manure are very beneficial to Rambler Roses at this season of the year when making their growth. Alternate this with nitrate of potash and phosphate of potash in the proportion of 1oz. to a gallon of water. Is your cable a wire one? If so, this has a good deal to do with the Roses not making longer shoots. The wire is extremely cold in winter, and the wind blowing the shoots against the wire chafes the bark. Can you enclose the cable wire in large Bamboo rods, or fasten two or three small thin Bamboo rods round it?

ROSE EARL OF DUFFERIN (*Lady Franklin*).—The season has been adverse to the development of this Rose. It is so very double that, unless we have warm weather and absence of rain, the buds cannot unfold their petals. Doubtless it would be a great success if planted against a south wall or in a south border at the foot of a wall. If grown in a border its growths should be staked, as it possesses a sort of semi-climbing nature. It is a Rose we do not recommend for the garden, its chief merit being an exhibitor's Rose only, and even for this purpose very uncertain. We advise you to discard the variety, and plant instead W. E. Lippiatt, or, better still, George Dickson, varieties much superior, the latter especially.

SUTTON'S NEW SUNFLOWER. THE PREDOMINANT COLOUR IS CRIMSON AND BROWN.

MISCELLANEOUS.

TABLE DECORATION FOR SHOW (*Mary SX.*).—You ask what points you should observe in decorating a dinner-table, 6 feet by 3 feet, for a show, and also what are the best flowers. In reply, we would suggest simplicity in design and character as essential factors to success. All too frequently dinner-table decorations at shows are too ornate and excessively overdone. Much depends upon the person or persons who judge the exhibits. Many so-called judges are quite incompetent to judge. A good judge, one who knows his business, will recognise floral art when both the receptacles and the flowers are set up in simple fashion. Some judges foolishly think an epergne is an indispensable stand for the centre of the table; we think otherwise. A dainty dish or bowl of clear glass for the centre, with two small vases, one on either side of this, and four corner glasses or small bowls, make a charming decoration. Do not use too many flowers; let each flower and piece of foliage speak for itself; and avoid rotundity of outline in the arrangement of the flowers. We have judged many dinner-table decorations, and the best, prettiest and most artistic have been those arranged on the simplest possible lines. In a capital competition a few days ago we awarded first prize to a table decoration of one variety of Violas, both flowers and foliage being used most advantageously. The idea was simple in its conception and beautifully artistic. You should procure Roses of one colour, or, better, of one variety. Shirley Poppies, Violas, Carnations, Sweet Peas, the different forms of the Sweet Sultans, Coreopsis—in fact, an almost endless list of subjects. Remember, in selecting colours, to use only those that look well under artificial light, for all dinner-table decorations are wanted for evening use. Therefore avoid blue, mauve and kindred colours. The hedgerow will often provide you with lovely leafage to associate with subjects having but spare foliage.

NAMES OF PLANTS.—*Mrs. Dineley.*—1, Œnothera speciosa; 2, Erigeron glaucus; 1, Campanula carpatica; 2, C. portenschlagiana; 3, C. pusilla alba.——*L. Barron.*—Omphalodes linifolia (Venus' Navel-wort).——*A. Midgley.*—Alstrœmeria aurantiaca.——*M. E. W.*—Campanula carpatica (broad leaf); C. linifolia (narrow leaf); Sagina procumbens; Helichrysum species, cannot name without flowers.——*A. P., Sussex.*—1, Vitis species, too scrappy for identification; 2, Stachys lanata; 3, Pteris cretica albo-lineata; 4, P. c. cristata; 5, too scrappy for identification; 6, P. tremula; 7, P. serrulata cristata.——*Alice Gill.*—1, Impatiens Roylei; 2, Sedum Sieboldii; 3, Cerastium tomentosum.——*J. Higgs.*—Roses: 1, Bouquet d'Or; 2, Jules Margottin.——*W. S., Hawick.*—1, Rubus species, cannot name without flowers; 2, Thalictrum angustifolium (Meadow Rue); 3, Centaurea macrocephala; 4, Gentiana asclepiadea (Willow-leaved Gentian); 5, Epilobium Dodonæi; 6, Merteusia sibirica; 7, Helenium autumnale variety; 8, Lysimachia vulgaris (Yellow Loosestrife); 9, Lychnis dioica flore pleno; 10, Valeriana Phu; 11, Liatris spicata, 12, Allium sphærocephalum; 13, Astrantia major; 14, Spiræa Ulmaria (Meadow Sweet); 15, Erigeron speciosum; 16, Circæa lutetiana.——*T. C. A., Sussex.*—Erica cinerea.——*H. N.*—A, Rudbeckia speciosa; B, Geranium pratense flore pleno; C, Geranium Endressi; D, Linaria bipartita.——*N. W., Alvechurch.*—Lilium testaceum.——*R. B.*—Prunella vulgaris (Self Heal). The only way to get rid of this plant from the lawn is to hand-weed it. Lawn sand will help. The leaf sent is not sufficient for identification.——*Skene.*—1 and 2, Veronica longifolia varieties; 3, V. l. rosea; 4, Centaurea atropurpurea; 5, Fuchsia Riccartoni; 6, Achillea species, specimen too scrappy to identify; 7, Stachys Betonica; 8, Erigeron philadephicus; 9, Sedum album; 10, S. rupestre variety. We fail to recognise the Roses. Can you send better blooms? The Verbascum is decidedly interesting. By all means grow both forms; one is a sport of the other.

A REMARKABLE NEW SUNFLOWER.

THE accompanying illustration is of Messrs. Sutton and Sons' new Sunflower, which was referred to in our issue for last week. It is a very striking flower, with a broad band of chestnut red round the base of the yellow petals, and is the result of a cross made between Helianthus annuus (the common annual yellow Sunflower) and H. lenticularis (the common wild Sunflower of North America) by Professor Cockerell of Boulder University, Colorado, who handed over his stock to Messrs. Sutton for development, and they are this year offering seeds for the first time. There has been no previous record of this colour in the popular H. annuus, which is such a well-known and favourite annual in English gardens.

SOCIETIES.

HESTON HORTICULTURAL SOCIETY.

The seventh annual exhibition of the above society was held in the Heston Schools, Middlesex, on August 6. Heston is situated in the midst of market-gardens, so that it was not surprising to find vegetables well represented. The quality of the produce was higher than that of previous years. Autumn-sown Onions were remarkably fine, while Brassicas and root crops, particularly Potatoes, were shown in capital form, despite an unfavourable season.

The President's Challenge Cup for the most meritorious exhibit in its class was won by Mr. G. Little for three dishes of Potatoes. The varieties shown were Duke of York, Lincoln Early Red and British Queen, the tubers being of perfect shape and uniform in size.

One of the chief features of the show was a gold medal collection of Sweet Peas, shown by Mr. H. D. Tigwell, Greenford, Middlesex. Among the best of the varieties staged were Melba, True Lavender, R. F. Felton, Hercules and Mrs. C. W. Breadmore.

Messrs. Cragg, Harrison and Cragg, Merivale Nurseries, Heston, were awarded a gold medal for a group of flowering and foliage plants, including a first-rate collection of Perpetual-flowering Carnations; also a silver medal for Peaches.

A gold medal was awarded to the Earl of Jersey, Osterley Park, for a collection of foliage plants, chiefly highly-coloured Crotons and Dracænas, that reflected great credit upon Mr. A. J. Hawkes, the able head-gardener.

Messrs. Spooner and Sons, Hounslow, were awarded a silver medal for an extensive collection of Roses, in which the leading varieties in cultivation were displayed.

As previously mentioned, vegetables formed an important feature of this exhibition, the collections, both by amateurs and market-growers, being worthy of the highest praise, notably the one staged in a masterly way by Messrs. W. J. Lobjoit and Son of Heston.

The Stephens' Cup for four dishes of cooked Potatoes was this year won outright by Mr. Hawkes, in keen competition.

SCOTTISH HORTICULTURAL ASSOCIATION.

The usual monthly meeting of the Scottish Horticultural Association was held in the hall, 5, St. Andrew Square, Edinburgh, on August 5. There was a good attendance, presided over by the president, Mr. David King, Osborne Nurseries. The exhibits comprised Lilium estaceum, L. Humboldtii magnificum, L. chalcedonicum and L. chalcedonicum maculatum, with Stenanthium robustum, the Mountain Feather Fleece, from Messrs. Dicksons and Co., Edinburgh. Messrs. John Downie, Edinburgh, also exhibited Astilbe Pink Pearl. The paper for the evening was given by Mr. John Highgate, gardener to the Marquis of Linlithgow at Hopetoun House. The subject was of special interest to amateurs as well as to gardeners, it being "Villa Gardening from the Professional Gardener's Standpoint." It showed that Mr. Highgate had studied his subject thoroughly, and that he had a perfect grasp of the principles and practice which should dominate the arrangement and planting of the villa garden. Mr. Highgate went thoroughly into it, dealing with the lawn and its treatment, and trees and shrubs (in the course of this part condemning the use of such large trees as the Lime, the Elm, and such-like). The usefulness of climbing and other shrubs was pointed out; the value of bedding and other flowering plants was also dealt with, and prominence given to the most useful plants for the small garden. A useful note was the portion relating to fruit trees; and growing Apples, Pears, &c., on cordons was suggested in view of the lowness of the walls generally built in connection with villa gardens. Mr. Highgate received a hearty vote of thanks.

SHOW OF SWEET PEAS AT DUMFRIES.

In connection with the annual show of the Dumfries Agricultural Society on August 5, a capital show of Sweet Peas and a few other subjects was held. A cup and cash prize offered for twelve varieties of Sweet Peas brought out excellent competition and magnificent flowers. Mr. J. M'Gill, Kirkconnel Gardens, was first; second, Mr. C. Murray, Cowhill Tower Gardens; third, Mr. R. A. Grigor, Dalswinton Gardens; fourth, Mr. J. M'Gill; v.h.c., Mr. T. Carruthers, Cargenholm Gardens. In the amateurs' class for six varieties the prize-winners in order of merit were Mr. G. L. Moffat, Mayfield, Lockerbie, and Mr. J. Crosbie, Dalswinton Village. In the open classes for Sweet Peas, for six varieties, the winners were: First, Mr. F. France, Knockbrex Gardens; second, Mr. J. M'Gill; third, Mr. C. Murray.

FIFE AND KINROSS ROSE, PANSY, VIOLA AND SWEET PEA SOCIETY.

The annual show of the above society was held on July 26 in the New Hall, Cardenden, and was the best display yet made by the members, who have every reason to be pleased with their latest efforts. The principal winners in the Rose section were Dr. Bowman, Messrs. James Anderson, L. Black, C. Lindsay, George Thompson and Thomas Seath. In the Pansy and Viola classes the successful growers were Messrs. Robert Rutherford, J. R. Biggar, Charles Gray, John Hutt, Daniel McGregor and James Campbell. Sweet Peas were an outstanding feature, and Mr. T. Christie was the leading exhibitor. Other winners in this section were Messrs. J. Anderson, James Honeyman, John Hutt and Charles Richardson. Mr. L. Black was the leading grower of herbaceous flowers. Other winners of the mixed classes were Messrs. Andrew Hutt, J. Anderson, J. Hutt and T. Christie. A very interesting exhibit was put forward for the opinion of the judges; this was six plants of Antirrhinums. Instead of the flowering spikes, however, it was the silvery foliage of the plants which came in for the attention of all the visitors, and this exhibit justly deserved the certificate of merit awarded. Splendid exhibits of Roses were staged by Messrs. James McAra, Rose Growers, Crieff; and Messrs. James Fairley and Co., Rose Gardens, Cairneyhill, Fife.

CAMBRIDGESHIRE MAMMOTH SHOW.

The 1913 Mammoth Show of the above society, which was held on Monday, August 4 (August Bank Holiday), stands out as the finest exhibition during the decade of its existence. From every point of view, except weather, the show was brilliant. There were 1,100 entries, being 200 more than last year, and, considering the trying conditions, the quality of the exhibits was exceptionally high. The open competitions included exhibitors from Peterborough, Bury St. Edmunds, St. Neots, St. Ives and Mildenhall. Pot plants were good. Miss Smith, Cambridge (gardener, Mr. F. Allen), was one of the principal winners, being first for Ferns, Fuchsias, Coleus and Zonal Pelargoniums, all of which were exceptionally good. For specimen plants, stove and greenhouse, P. L. Hudson, Esq., Pampisford Hall (gardener, Mr. Kirkpatrick), showed some exceptionally fine plants. For a group of tuberous-rooted Begonias, P. J. Hall, Esq., was first, Miss Smith being second. Groups of plants were poorly represented, which was a great pity, as such a class greatly improves the appearance of any show. P. L. Hudson, Esq., was first with a beautiful, well-arranged group, consisting of Palms, Ferns, Francoas, Clerodendron fallax, Begonias, Caladiums and Crotons. The exhibition of cut flowers was remarkably good. The herbaceous Phloxes were the chief feature, these being magnificent. Mr. C. Bright, Cambridge, was first with splendid groups 12 feet by 3 feet and 6 feet by 3 feet, both collections consisting of well-grown flowers. Pentstemons and Antirrhinums were well shown by Miss Smith, who was first for both. Stocks, Sweet Peas and Roses were also good, Mr. C. Bright, Mr. P. Hawkes and Mr. J. C. Palmer being first in each class respectively, while other classes were equally as good. Perfect in detail and glorious in the mass were the exhibits of Roses, not for competition, shown by Messrs. Pigg of Royston and Messrs. J. Burrell and Co. of Cambridge, and attracted a good deal of attention. Great credit is due to Mr. W. Stearn for the capable way he discharged the duties of hon. secretary of the horticultural section, and the hon. secretaries of the other section are deserving of equal praise.

ROYAL HORTICULTURAL SOCIETY.

The usual fortnightly meeting of the above society was held at Vincent Square, Westminster, on Tuesday last. In the midst of the holiday season it is not surprising to note that the hall was far less crowded than usual. Nevertheless, there were some fine exhibits, notably of hardy flowers. Gladioli were shown by various exhibitors, while Delphiniums, Phloxes and the old-world Hollyhocks each contributed to the brightness of the floral display.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (chairman), and Messrs. W. Bates, W. E. Humphreys, W. Pope, J. G. Weston, A. R. Allan, J. Willard, Owen Thomas, C. G. A. Nix, A. H. Pearson, J. Jaques, J. Davis, E. Beckett and A. Grubb.

Messrs. James Veitch and Sons, Limited, Chelsea, were awarded a silver-gilt Knightian medal for a collection of fruit trees in pots, of high quality and staged in the manner we have learnt to associate with this firm. The Peaches were remarkably well cropped, notably Sea Eagle and Kruse's Kent. Pears Souvenir du Congrès and Triomphe de Vienne, and a variety of Plums and Apples were shown, also a new Blackberry-Raspberry hybrid known as the Veitch Berry, with a decided Blackberry flavour and of exceptional size.

Orchid Committee.

Present: J. G. Fowler, Esq. (chairman), Sir Harry J. Veitch, and Messrs. James O'Brien, Gurney Wilson, F. J. Hanbury, W. H. Hatcher, G. Hunter, A. Dye, J. Charlesworth, A. McBean, W. H. White, S. W. Flory, W. Bolton, de B. Crawshay and R. A. Rolfe.

There were only four groups of Orchids to gain awards. Mr. E. H. Davidson, Orchid Dene, Twyford, received a silver Flora medal, while silver Banksian medals were granted to Mr. H. T. Pitt, Messrs. Charlesworth and Co., Hayward's Heath, and Messrs. J. and A. McBean, Cooksbridge.

Floral Committee.

Present: H. B. May, Esq. (chairman), and Messrs. C. T. Druery, E. A. Bowles, T. Stevenson, G. Reuthe, J. W. Barr, R. Hooper Pearson, J. W. Moorman, C. R. Fielder, J. F. McLeod, C. Blick, W. Bain, William H. Morter, J. T. Bennett-Poe, A. Turner, Charles E. Pearson, W. P. Thomson, E. H. Jenkins, H. J. Jones, G. Paul, B. Crisp and J. Green.

Mr. M. Prichard, Christchurch, Hants, had a particularly good lot of the best herbaceous plants—Crinums, Montbretias, Gladioli, Delphiniums, Phloxes and other showy things. Of the Phloxes, Iris of the blue-flowered set was one of the most striking, while M. A. Buchner, purest white, was also good. Selma, pink, with crimson eye, was also distinct. Gladioli generally were very fine, though to our thinking the most charming of them all were the hybrids of G. primulinus, which have the attributes of grace and artistic beauty combined. Crinums, both white and rose coloured, were very imposing, while Coriaria japonica was perhaps one of the most interesting plants in the group.

Mr L. R. Russell, Richmond, displayed a table of hardy Fuchsias in pots, in some dozen or so of the best sorts, together with Ceanothus and the best of the hardy Vines, as Vitis Coignetiæ, henryana and others. Dimorphanthus mandshuricus argenteo variegata was also well represented, a similar remark applying to the pretty coral-berried Nertera, which we have never seen better fruited.

Messrs. Dobbie and Co., Edinburgh, had a remarkable display of Scabiosa atropurpurea and its varieties, which are now as numerous as they are beautiful. The shades of mauve from palest to deepest appealed to us most strongly as lending themselves to decoration of the most artistic temperament. The Collarette Dahlias were particularly fine, Cumbrae, Frogmore, Meteor, Queen Bess (orange and red), Yellow Queen and Prince de Venosa (crimson and white inner florets) being of the best.

Messrs. William Wells, Limited, Merstham, staged some excellent Phloxes in the cut state in bold vases, Derviche (blue), Elizabeth Campbell (pink), King Edward (crimson), Iris (perhaps the finest blue), Richard Strauss (violet), Le Mahdi (deep Parma Violet shade) and Arthur Rane (very fine pink) were among the best.

Messrs. James Vert and Sons, Saffron Walden, staged Hollyhocks, both in the natural spike as grown and on boards in the cut state, in yellow, white, crimson pink, coral and other shades.

Messrs. A. H. Cole, Limited, Swanley, exhibited a capital collection of Zonal Pelargoniums in some thirty or more leading commercial varieties. Crimson Crampel, Ian Maclaren, Maxime Kovalevsky, Barbara Hope (a fine salmon), Venus (purest white) and Sir R. Ball (crimson-scarlet) were among the best. Gloxinias and an excellent strain of Pentstemons were also displayed.

Messrs. T. S. Ware, Limited, Feltham, filled a table with the showier herbaceous plants—Phloxes, Erigerons, Agapanthus umbellatus albus, Delphiniums and Gaillardias. Salvia nemorosa virgata was particularly good and showy, as were also white and coloured Crinums and Campanula grandiflora.

Messrs. William Cutbush and Sons, Highgate, N., displayed a miscellaneous table of stove and greenhouse plants Caladiums, Dracænas, Lilium auratum, L. longiflorum in variety and Begonia President Carnot. Dracæna Victoriæ and Coleus Cordelia (a finely-coloured variety) were both handsomely displayed in bold groups.

Messrs. H. B. May and Sons, Edmonton, displayed greenhouse Ferns in excellent condition, staging groups of Adiantum farleyense gloriosum, Davallia tenuifolia Veitchii, Adiantum peruvianum, Polypodium Mayi and Nephrolepis exaltata superba. Adiantum Faulkneri is one of the most delicate and pleasing of the Maidenhair Ferns, and was well represented.

A small plant of Saxifraga florulenta in flower was shown by Mr. B. Crisp on behalf of Mr. A. W. Chaplin, Great Airwell, near Ware. It is a rare and interesting species, seldom seen in flower away from its native habitat.

Some excellent herbaceous Phloxes were shown by Mr. W. Wilkinson, Elmhurst, Bishop's Stortford, but we did not notice any novelty of outstanding merit among them.

Mr. Charles Blick, Warren Nurseries, Hayes, exhibited a handsome vase of the deep apricot-coloured Carnation Mrs. Wharton. The variety gained an award of merit last year.

Mr. A. Worsley, Isleworth, exhibited the drooping, blue-flowered Agapanthus Weillegii, which is very beautiful and distinct.

Mr. Amos Perry, Enfield, exhibited effective masses of Delphiniums and Achilleas, the hybrids of D. Belladonna making quite a feature. Of these we noted D. semi-plena, D. Mrs. Brunton, D. Persimmon, D. Lamartine and D. Mrs. Thomson, representing deep and light shades of blue. Achillea Perry's White was very finely shown, a great mass of pure white that was exceedingly effective.

Sir Trevor Lawrence, Bart., sent a handsome bunch of Campanula grandiflora semi-plena, a variety of bold stature and very rich in colour.

A collection of choice and rare flowering plants was shown by Mr. G. Reuthe, Hardy Plant Nursery, Keston, Kent. The collection included Sedum pulchellum (the true Bird's-foot Stonecrop), Stokesia cyanea præcox, Erinacea pungens and Astilbe simplicifolia.

Show of Gladioli.

There was keen competition for the President's Cup for twenty vases of Gladioli. The English competitors showed excellent spikes of blooms, but they were unquestionably beaten by Messrs. G. Zeestraten and Sons, Oegstgeest, Holland, who staged an exquisite collection. Among the best of the varieties shown were Badenia (blue), Princeps (light red), Pink Perfection, Baron Joseph Hulot (violet, but not over-vigorous), Red Emperor, Goliath (crimson purple) and Moonlight (soft yellow).

A magnificent display of Gladioli, extending the whole length of the hall (not for competition), was sent by Messrs. Kelway and Son, Langport, who have so long been closely associated with this flower. Every vase in this extensive exhibit contained flowers of the highest perfection. We were particularly impressed with the varieties Lady Macfarlane, Lady Muriel Digby, Colonel Morgan, Adelaide, Glory of Somerset, Royalty and Princess Victoria. Several very promising seedlings under number were also noted.

Messrs. William Cutbush and Son, Highgate, London, N., showed Gladioli in variety. The varieties Peace, Halley, Panama and America were shown in quantity, while the centre of the group was filled with the bright purple blue of Baron Joseph Hulot, which everyone admired

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Hydrangea cinerea sterilis.—This woody Hydrangea is worthy of attention, either for conservatory decoration or for planting out of doors. The corymbs of snow white flowers are not so pyramidal as those of paniculata grandiflora, nor yet so flat as those of arborescens.

Dividing Spring Bedding Plants.—Such plants as Auriculas, Daisies, Primroses, Polyanthuses, Saxifragas and many others that are required for spring bedding should now be divided. Break them up into pieces with roots attached, if possible, and plant them in a partially-shaded place in good soil, giving an occasional watering should the weather be at all dry. Wallflowers, Canterbury Bells, Sweet Williams, Foxgloves and other biennials should also be transplanted to get good, sturdy plants for planting out later.

Salvia Grahamii.—This is a plant which deserves to be better known. It is of shrubby habit if permitted, but may be cut down in spring if desired, when it makes a nice, bushy plant. Given good soil and a sunny position, it will attain to 3 feet or 4 feet. The flowers are bright crimson lake in colour, and are produced on slender growths clothed with small, bright green leaves. It is reputed to be rather shy-flowering, but a clump in the gardens at Westwick, Norwich, has proved quite the opposite, having been in flower all the summer.

Seed-Sowing in Late Summer.—Seeds of all bulbous or similar plants should be sown now as soon as ripe. By doing so, much better results are obtained. Seeds of Primulas and many alpine plants are best treated in the same way, as many of them lose a good deal of their vitality through being left till the spring, and, consequently, are much slower in germinating. As seeds of many bulbous plants take several years before they germinate, it is very important to be sure that the seeds which have been sown some time are quite perished before disposing of the soil in which they are placed.

A Charming Californian Plant.—Platystemon californicus is a pretty hardy annual not very often seen. Hailing from California, it is known as the Californian Poppy, a title which Eschscholtzia californica has also arrogated to itself. Nicholson describes the flowers as yellow, but creamy white is as near the mark, especially in reference to the under side of the petals, which are much in evidence, as the flowers close up early in the afternoon and remain closed on dull days, when they give the suggestion of creamy white Snowdrops. It is a desirable dwarf hardy annual.

Butterflies and Caterpillars.—During the past ten days or so there have been great numbers of butterflies about, chiefly the large white Cabbage butterfly. In past seasons caterpillars have, in many instances, entirely destroyed Cabbages and Cauliflowers in some town gardens, leaving only the main stem and ribs of the leaves. Cultivators should, where they possess only a few plants, carefully examine the under sides of the leaves and destroy the clusters of eggs often found there. Where there are large breadths of plants, vigorously shake the leaves, dislodge the eggs, scatter a small quantity of dust-dry lime on the soil, and then rake it over with an iron-toothed rake. Both eggs and early caterpillars will thus be destroyed wholesale.

The Barberton Daisy.—For several weeks past a long, narrow border at the foot of the Orchid houses at Kew has been made very effective by the flowers of this South African Composite. Known under the name of Gerbera Jamesonii, the species has made rapid strides in public favour during the last twelve or fifteen years, for twenty years ago it was scarcely known outside botanic gardens. The warm, sunny position in which the above-mentioned plants are growing evidently ensures the exact conditions they desire, for every plant is a well-developed specimen bearing a profusion of well-grown, healthy leaves, and a large number of inflorescences borne upon long, sturdy stalks. The larger inflorescences are upwards of three inches across, and the colour is, in most cases, the rich scarlet peculiar to the best forms.

A New Wild Rose.—Lovers of the beautiful single Roses will welcome the advent of Rosa sertata, a new variety from China. We owe its introduction to Mr. E. H. Wilson, who also sent home two other recent additions to our wild Roses, *e.g.*, R. Moyesii and R. Willmottiæ. R. sertata forms an attractive bush 4 feet to 5 feet high, with elegant, glaucous green foliage. From mid-June onwards, for a month or rather more, appear a profusion of delicate rose pink blooms 2 inches or rather more in diameter. These are followed by quantities of bright red fruits, which hang in small clusters, two, three, or more together, from the long, arching growths. The fruits are about three-quarters of an inch long, sub-globose or urceolate. R. sertata will make a nice Rose for hedges, being well furnished to the base.

A Good Callfornian Lilac.—The various evergreen kinds of Ceanothus form excellent wall plants, but possibly none is better than C. thyrsiflorus griseus so far as free-flowering qualities go. C. thyrsiflorus is known as the Californian Lilac, but the variety under notice can, perhaps, lay better claim to that name, for the flowers of the type are blue, while those of the variety are pale mauve in colour and are borne in larger heads than those of the type. C. thyrsiflorus is one of the hardiest of the spring-flowering kinds, and grows into a large bush in the open ground at Kew. The variety is, however, grown on walls, and few objects attract more attention during late May, for every branchlet is terminated with a fine inflorescence. Anyone who has wall space to spare, whether it faces east, south, or west, might give this and other Ceanothuses a trial.

CORRESPONDENCE.

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

Ornamental Gourds at Edinburgh.—In some of the beds in Princes Street Gardens, Edinburgh, several varieties of ornamental Gourds with ripe fruit have been used as dot plants, with good effect. The only drawback in connection with them is the innumerable questions asked by visitors, including earnest enquiries as to how they should be served at table.—VISITOR.

Anemone japonica Gracieuse.—I am not sure whether this double Japanese Anemone emanated from Nancy or Paris, but it is a most desirable variety. It is the most vigorous of all the varieties which I have seen, including the type. In colour it does not vary much from several other varieties, but it is most floriferous, each stem bearing from ten to fourteen flowers.—C. C.

A FINE PLANT OF EUCHARIS GRANDIFLORA GROWN BY MR. WEBSTER AT BECKENHAM.

Huge Rhododendrons.—"S. A." has an interesting note on the large Rhododendron in the gardens at Culzean Castle, Ayrshire (page 383). It may further interest your readers to know that there is a Rhododendron forest on the estate of the Earl of Malmesbury at Heron Court, Hampshire. Lord Malmesbury very kindly opens the forest mentioned to visitors when the plants are in flower. These Rhododendrons form long avenues, meeting overhead, many of them being of vast proportions. They cover a considerable space, some of which is on a gentle slope, and as the surface soil has been washed away, thousands of huge roots, forming a veritable network, are exposed. The plants are chiefly, I believe, of the ponticum type.—G. G.

An Attractive Double Pink Bramble.—This is one of the showiest of the flowering Brambles, and the fact that it blooms during August, after the majority of the flowering shrubs are past, adds considerably to its value. It is, however, not exactly a shrub to associate with Eucryphias, Olearias and Ceanothuses in our best cultivated borders, but more a subject to use freely in the less important shrubbery borders and grow in masses in the open woodland or semi-wild parts of the pleasure grounds. The double pink blossoms are borne at the ends of the shoots in long, terminal panicles, and might be very well compared to a double pink Daisy, so numerous and closely set are the petals. Rubus fruticosus roseo pleno and R. ulmifolius flore pleno are the two best-known names of this Bramble, though at various times it has had at least two more.—A. B.

Eucharis grandiflora, or, as it is more often named, E. amazonica, although introduced from New Grenada in 1854, still occupies a prominent position in any collection of exotic plants. Its beautiful, shining, Aspidistra-like foliage gives it a charm even when not in flower. It forms at all times an excellent subject for the stove, where it enjoys during active growth a maximum amount of both top and bottom heat, with abundant moisture. Unlike most plants, it can be flowered twice or even three times a year by varying treatment. To obtain these results, immediately after flowering active growth should be encouraged by abundant heat and moisture, aided by the application of weak liquid manures (including soot-water) until the new foliage is perfectly developed, a gradual reduction then taking place until the foliage becomes sufficiently hardened to allow removal of the plants to a drier and cooler atmosphere, to remain there until it is desirable they should bloom. During this resting and ripening period only just sufficient water should be applied to prevent the leaves suffering. Six weeks before the blooms are required, all that is necessary is to place the plants in extra heat. Bottom-heat at this stage is a great factor to simultaneous flowering. The plant illustrated is 6 feet in diameter; it produced thirty-six spikes, with an average of five blooms to each. It was grown on from a small plant, potted in loam mixed with old mortar siftings. Some years ago the plant was badly attacked by Eucharis mite, showing distinct red streaks above and below the soil on the leaf-stalks. Repeated applications of lime-water gave good results. It would appear almost unnecessary, considering the large quantity of water required during the periods of active growth, to say that perfect drainage is essential to success.—MARK WEBSTER, *Kelsey Park Gardens, Beckenham, Kent.*

The Charm of Clarkias.—Judging from notices in THE GARDEN, considerable attention is being given to these lovely annuals at the present time, and no wonder, for some of the newer double varieties are great improvements on the old single ones. Three particularly beautiful ones which I have seen this summer are Orange King, Queen Mary and Purple Prince. The last is of that unfortunate magenta shade which never seems to have many friends, but which is not bad when you get it alone. Queen Mary is a rich deep rose, very bright and most effective, as visitors who saw it at the "International" will remember. Orange King is a rich cerise pink, the middle of the flower being the darker. As pot plants for conservatory, corridor, hall, or large drawing-room decoration they are superb. I was talking to Mr. N. F. Barnes of Eaton Hall Gardens at our local show not long since, and I was delighted to find him equally enthusiastic over the merits of Clarkias generally when grown in pots. He said how well the soft pink and rose shades blend with the mauves and pale heliotropes of Schizanthus. Their culture is of the simplest, and they seem able to adapt themselves to different sizes of pots and to bloom freely in all of them—the rule being the larger the pot the taller the plant, and *vice versa* in reason—the minimum size that I would advise being a 5½-inch.—JOSEPH JACOB.

Musk Losing Its Scent.—I see it is suggested in your issue for August 9, page 395, that Musk never did smell stronger than it does to-day. I cannot say that I ever found an outdoor specimen with a strong scent, but years ago I distinctly remember a sunny greenhouse filled in the spring with the delightful perfume of this plant. I have lately raised plants from seed and obtained them from various sources, but they have all been nearly scentless, and friends have remarked on the same peculiarity. The scent of plants, however, is not a mere freak of Nature, but is produced to attract insects to the blossoms, as was pointed out by another correspondent some weeks back. For this reason the scent is most apparent when conditions of atmosphere favour the visits of the fertilising insects. Thus, some plants smell most strongly after rain; others when the air is sultry; others, which are visited by night insects, only smell after sunset. The ordinary little yellow pot Musk is, I believe, a native of North-West America, and was not known in England till after 1826. It brought its scent with it when it came to us, but it is not improbable that the insects which fertilise it in its native home are not known in our island. It has, therefore, been obliged to fall back on some other means of fertilisation, and its scent, being no longer useful to it, has gradually disappeared, vanishing first from those plants grown in the open, where colder conditions seemed most unfavourable to insect visitors. It was not until the scent had almost vanished that the fact was brought to general notice. I give this suggestion for what it is worth, but it would be interesting to know whether Musk still smells in its native haunts and by what insects it is fertilised there.—E. A. P.

A Late-Flowering Horse Chestnut.—Æsculus parviflora, the Shrubby Buckeye, is an August-flowering shrub of considerable value for the pleasure grounds and shrubbery borders. A native of the South-Eastern United States, when growing in the open it forms a large, shapely bush 8 feet or more in height and sometimes double as much through. When growing in suitable soil and surroundings, suckers push up freely. Æ. parviflora has the familiar digitate Chestnut leaf and a long, slender inflorescence of white flowers with prominent stamens. Seeds ripen in this country during a favourable autumn.—O.

Lilium giganteum.—The illustration of the Liliums growing in Lady Trevor's garden at Chirk, which appeared on page 382, issue August 2, shows remarkably fine specimens. I have just seen a plant in a sandy border in a town garden in Hampshire. It is a poor plant, and I was told that they—owner and gardener—could not succeed in growing this Lilium. In a garden on a hill not far away there has been no difficulty experienced in growing grand plants in a partially-shaded position, which bears out Lady Trevor's contention that a shady place is best.—B.

Convolvulus Heavenly Blue (Ipomœa rubro-cærulea).—It is not every year that one is able to speak of success out of doors with this most lovely flower, but just now it is a sight worth seeing. On two patches on a wall facing south-west there were, on the morning of August 4, thirty-three and thirty-eight open blooms respectively, the plants in each case growing in light, warm soil, covering only the modest space of 5 feet high by 3½ feet wide. In one of the patches fifteen blooms were so closely grouped together that they all touched or overlapped. The sight of this comparatively large expanse of this most perfect blue was a thing to remember with thankfulness for the gift of such astounding beauty. The flower is of extreme purity, both of form and texture, the wonderful blue being enhanced by a faint suspicion of yellow in the tube. It is a matter for regret that so lovely a thing should be so fugacious, for after midday the flower loses its purity and by the afternoon has turned to a muddy pink. It is only fair to say that the plants were grown from Messrs. Sutton's seeds. It is well to know that so good a strain is available, for in former years the best one could obtain were more rank in growth and the flowers much fewer.—G. Jekyll.

FORTHCOMING EVENTS.

August 28.—Flower Shows at Dundee (three days) and Sandy.

August 29.—Flower Shows at Dunfermline (two days), Falkirk and Lymington.

August 30.—Flower Shows at East Linton, Melrose, Conway, Penicuik and Whaley Bridge. Co-partnership Festival.

THE FLOWER GARDEN.

THE AMERICAN COWSLIPS.

The Dodecatheons, American Cowslips, or Shooting Stars as they are popularly known, belong to the Primula family, though quite unlike them in general appearance. They have, however, the reflexing petals of the Cyclamen, which also belong to the same great family; nothing, however, to suggest that they are allied to the Primroses. Both botanically and horticulturally they may be regarded as a small race, yet, when we have learnt to know them and grow them, they have quite an importance of their own. We say this much advisedly, because of the too frequent text-book recommendations that these plants—and not these alone—are particularly partial to "light, gritty loam." So often does one meet with these or similar words to indicate the class of soil in which a plant should be grown that not only do they appear in the nature of a stock phrase, from which apparently there is no departing, but the reader comes to regard them lightly and as having but little importance. In "The Hardy Flower Book" (Jenkins) we are told that they "love cool and shady places in peat and loam," a slight departure from everyday recommendations, and one which, in the briefest of sentences, indicates the position these plants prefer as well as soil. This to the amateur or beginner who knows but little of the requirements of his plants, we regard as important—educational in the highest degree. Such information prevents a cool or moisture-loving plant being placed in the sunny border to starve at the outset, and affords encouragement to the planter to continue his work. These American Cowslips blossom in our gardens in springtime, though for the most part in May and early June. It cannot be said of any of them that they possess great vigour; D. Jeffreyi is the most vigorous of them all. Their greater attributes are perfect hardiness, freedom of flowering when well suited, and a grace and charm none will deny. They are of the true deciduous perennial class, *i.e.*, they die completely to the earth each year, losing both leaves and stems in the great majority of instances. Whether such plants are more complete in their hardiness because of the fact might prove a moot point; in any case they lend themselves to liberal mulchings of soil or manure in a way that many plants do not. It will be seen, too, by a close observance of the rootstock that such mulchings are essential, inasmuch as there is a marked tendency in the established examples to lift themselves slightly above the soil. Hence an inch-thick mulch of rich soil—half loam, half well-decayed manure—may be given each year in early autumn with advantage. So graceful and pretty in effect are these plants that, apart from a general recommendation to plant in cool and shady places, they may also be planted in cool recesses in the rock garden where sheltering bank or rock exists behind. Upon more than one occasion when experimenting with hardy plants we have given them positions in the bog, treating them in winter-time to free applications of liquid manure, the result convincing us that the twain were quite congenial to their well-being.

AMERICAN COWSLIPS OR SHOOTING STARS (DODECATHEON MEADIA).

Cultural Hints. — Generally speaking, the plants are rather slow to establish; hence should not frequently be disturbed. For this reason a deep bed of rich soil should be prepared, and young plants, preferably strong seedlings, put out in plenty. Where divided plants are employed, the divisions should be made rather small, as these, in common with not a few herbaceous subjects, do not retake kindly to the soil when planted in large clumps. The best methods of increase are by seeds, which should be sown soon after maturing, and by root cuttings, which is perhaps the most expeditious of all. In the case of any particularly good variety it is without an equal, but it can only be employed advantageously when the plants are dormant As there is not a

great variety of colour at present existing, hybridising may be found of interest to those engaging in the improvement of hardy plants generally. The best planting season is early autumn, though it may be done at other seasons when youthful plants are established in pots. The following are some of the leading kinds now in cultivation :

D. integrifolium.—A rather dwarf plant of not more than 6 inches to 8 inches high, and, without doubt, the richest coloured of all. The predominant colour is deep crimson, the base of the petals white, emerging from an orange-coloured cup. Rocky Mountains. A deeper-coloured variety of this plant is often catalogued as splendens.

D. Jeffreyi.—The tallest and most vigorous growing of the race, quite distinct in these respects and in habit general, while resembling a rather deep-coloured form of D. Meadia in its flowers. Quite 2 feet in height in the ordinary way, the plant reaches its fullest development in moist clay. It succeeds admirably, however, in deep, rich loam with abundant moisture. A little of the vigour of this fine plant in the dwarfer and more richly-coloured varieties would be very acceptable. It is certainly worthy of the thought of the intelligent hybridist.

D. Meadia (see illustration).—It is this species and its varieties that are best known to cultivators. It is a choice and elegant-growing herbaceous plant of 12 inches or 15 inches high, more slender or graceful of stem than the last named, and bearing umbels of drooping flowers, as shown in the illustration. The predominant colour of the petals is purplish ; in some varieties it is blush or lilac. There is also a white variety, D. M. alba. Distinctive varieties bearing such names as elegans, splendidum, lilacinum and giganteum also occur in the catalogues of the specialists, and these, planted separately in colours or in mixture, are capable of providing pretty effects either in the rock or bog garden.

HARDY ANNUALS FOR AUTUMN SOWING.

It is doubtful whether there is any other class of plants which by the expenditure of a few shillings in the purchase of seeds will produce such a variety and brilliant display of flowers for garden decoration and cutting. Annuals are quite as valuable in the small garden as in the large one. The time to sow the seeds is a matter requiring consideration, and a subject about which no hard-and-fast lines can be followed. The nature of the soil in the garden, whether heavy or light, the locality where the garden is situated, and its position, whether favourably placed for sun and screened from cold winds, or very much shut in and enclosed, making it unsuitable for some plants, are all matters that need attention. There are points in favour of both autumn and spring sowing, which it will be just as well to survey before dealing in detail with the different sorts or varieties of annuals. First of all, let it be clearly understood that if full advantage is to be taken of the great value of hardy annuals in the garden, both autumn and spring sowing of the seeds in some way or another must be practised. By sowing the seeds at different times and under several conditions, the flowering season is considerably prolonged and the varied requirements of the respective annuals suited.

Cultivation on Heavy Soils.—Sowing seeds on soils of a clayey nature which are heavy and wet is not a profitable business in autumn. Failures and losses are usually considerable. The most notable exception are Poppies, which survive an ordinary winter on heavy ground very well. The best method of procedure for annuals on such soils is to set apart a border in a warm and sheltered position, under a wall or fence with a south or south-west exposure, in which to raise the seedlings. Thorough drainage of the seed-bed in winter being of the utmost importance, 6 inches to 9 inches of the top soil should be removed and replaced with a similar amount of clinkers and ashes. A compost of light, sandy soil to the depth of about six inches must be spread over this, so that the seed-bed is raised well above the ground-level, similar to an Asparagus-bed, for instance. In most instances this will be sufficient ; but if more protection is required, a handy-man with a few boards and several odd lights will soon fix up a temporary frame. It will be preferable to place the boards in position previous to sowing the seeds, but the lights should only be used during bad weather, *e.g.*, severe frost, heavy rains, or snow. Always remember that, however much care and attention we devote to the culture of autumn-sown annuals, they are hardy plants, and must not be unduly coddled, simply protecting them against the extremes of our variable British climate.

Sowing in Light or Sandy Soil.—In gardens where the soil is fairly light and well drained, the most satisfactory results, with a few exceptions, are obtained by sowing the seeds where it is intended the plants should flower. This, however, is not always possible, for the ground may not be available when it is time to sow the seeds, being occupied with other plants still in bloom. Here, again, the reserve border will be useful in which to raise the seedlings, transferring them to their flowering quarters a couple of months later, or in late March and early April, whenever the ground is vacant. There are two methods of sowing the seeds, one of which is broadcast, that is, scattering the seeds thinly and evenly all over the surface of the ground, afterwards raking it thoroughly to bury the seeds. With one or two exceptions, notably Sweet Peas, this is the usual procedure when sowing the seeds where the plants are to flower. Sowing in drills or straight lines 1 inch to 1½ inches deep, made with a draw hoe, is the preferable method when transplanting is intended, filling in the shallow drills by carefully raking over the surface after sowing. Lifting the seedlings is much easier for transplanting when they are in straight lines.

The ground for transplanted seedlings should, if possible, be prepared a month before it is required, to allow it to settle down and be in good condition for planting. Too much emphasis cannot be laid on thin sowing. In the first place, it is waste of seeds to sow otherwise, and then in a crowded seed-bed the seedlings become drawn and sickly, have more difficulty in surviving the winter, take a lot more looking after before the flowering stage is reached, perhaps require a stake for support, and certainly do not flower so freely and make such a good show as a well-grown, sturdy plant from birth. When a quantity of fine seeds have to be sown, it considerably facilitates the operation to mix the seeds with sand. In this way a thin and even distribution of the seeds is obtained when sowing broadcast.

(*To be continued.*)

TREES AND SHRUBS.

THE AUGUST-FLOWERING CLEMATISES.

Beautiful at whatever season of the year they flower, those Clematises which blossom in August are particularly valuable, as at this season there are comparatively few shrubs flowering in the pleasure grounds and shrubbery borders. As they vary in height from about three feet to fifteen feet or more, there are a variety of ways in which they may be effectively planted. All those mentioned in these notes require support of some kind, varying from a few short Pea-sticks in the case of the shorter-growing ones to tall rustic poles. These August-flowering Clematises should be freely planted in town and suburban gardens, being admirably adapted for clothing fences, rustic arches, porches, screens, trellis-work and arbours. They also seem to succeed in the soils of such gardens, presumably because the builder leaves plenty of mortar rubble and broken bricks behind, to which Clematis plants are partial.

The Lady's Bower (C. Viticella and its varieties) has flowers of moderate size, and succeeds better in most gardens than the larger-flowered C. Jackmanii and C. lanuginosa types, not being liable to collapse suddenly. Hardy and vigorous in growth, the varieties of C. Viticella produce long, graceful growths, which may be looped loosely to rustic arches, fences and arbours, with pleasing results. A good range of colour is available, there being numerous shades of blue, red and pure white. A selection of the best sorts should include alba, rubra, atrorubens, Ville de Lyon, ascotensis, and Viticella the type. There is a double variety, flore pleno, but the flowers are not so attractive as the single ones. Three rustic poles with spurs fixed tripod fashion, 8 feet to 10 feet high, look very effective in a shrubbery border clothed with C. Viticella.

C. Pseudo-flammula is a delightful small-flowered, upright-growing species, producing a wealth of creamy white blossoms in the way of C. recta. It attains about five feet in height, requiring only the support of a few Pea-sticks. A native of the Caucasus, C. Pseudo-flammula is at its best the first week in August, two to three weeks in advance of that species. It is also not nearly so tall in growth, not perhaps, strictly speaking, being a climber. The flowers are deliciously fragrant, suggesting Vanilla.

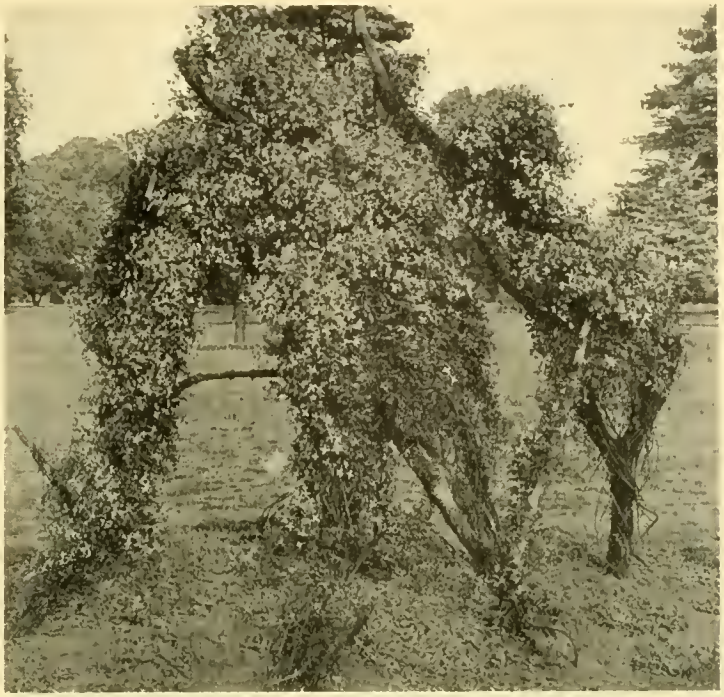
Quite a number of the smaller-flowered Clematises blossom during the present month. Those with the elegant, drooping, bell-shaped blossoms prettily recurved at the edges deserve attention, being very floriferous and easy to cultivate. Supported with a few short Pea-sticks, C. integrifolia (purple), varieties rosea and alba attain a height of 3 feet to 5 feet or more. C. globosa and C. intermedia are evidently hybrids of C. integrifolia, resembling that species in growth and shape of the flowers, but the latter are a little larger and have more substance.

Two hybrids (C. Viticella × C. integrifolia) named C. Hendersonii and C. Clocheton, both with dark purple flowers, are very free-flowering, and attain a height of 6 feet in the case of C. Hendersonii, but C. Clocheton, though not so tall, is perhaps a little sturdier in growth. In the graceful, drooping poise of the flowers the influence of C. integrifolia is readily seen. C. Durandii is another C. integrifolia hybrid, but in this case

the large, flat flowers, 5 inches across, take after the large-flowered parent. C. Durandii has purple flowers, while another sort similar in form named C. pallida has lighter-coloured blossoms. Both are free in growth and adapted for arches, pillars and clothing tall fences.

C. Flammula rubro-marginata is a dainty, small-flowered variety with white blossoms prettily margined with rosy purple. The slender, trailing growths may be utilised for clothing porches, verandahs, &c., where the deliciously fragrant blossoms will be appreciated.

It is during August that the Jackmanii Clematises are at their best. Though hundreds are planted every year, their successful cultivation is not general. Observations of plants in a thriving condition suggest that they do not like the hot sun shining on the stems. Deep planting is another fault, and the soil, though rich, should be well drained and contain plenty of lime—mortar rubble, for instance. There are several ways in which the sun shining on the bark of the stem may be prevented. Plant on a west or north-west aspect against a porch, verandah, wall, or fence. Associate with the Clematis a white Jessamine or Honeysuckle, and plant them in the shrubbery borders where the shrubs are 4 feet to 5 feet in height, or on a fence with shrubs in the foreground to hide the lower part of the stem. A selection of the best of Jackman's Clematises are Jackmanii, violet purple; J. superba, very dark violet purple; J. Snow White, pure white; J. rubra, dark velvety red; Gipsy Queen, velvety purple; and Mme. E. André, bright velvety red.



THE FRAGRANT VIRGIN'S BOWER (CLEMATIS FLAMMULA) GROWING OVER RUSTIC POLES.

Though flowering for some two months past, there are still a considerable number of the showy rich yellow flowers on C. orientalis var. tangutica. These are followed by fluffy balls of seeds, which add considerably to their attraction. Rambling over a few rough sticks placed against a fence or screen, this Clematis may be expected to thrive.

CLEMATIS VITICELLA ALBA, A VIGOROUS-GROWING VARIETY SUITABLE FOR CLOTHING LOW TREES.

A LITTLE-KNOWN CHILIAN SHRUB.

(Eucryphia pinnatifolia.)

The illustration on page 422 shows a beautiful bush of this comparatively rare Chilian shrub flowering at Kew. Although introduced as long ago as 1862, it has never become common in gardens, presumably because many of the bushes have not been planted in positions favourable to their growth. Naturally, when planting choice treasures such as this Eucryphia, what are supposed to be the most favourable spots are chosen. Probably in most instances this shrub has been planted at the foot of a sunny south wall where the soil is dry. Experience with the Eucryphias at Kew points to these conditions being unfavourable, for while a little protection may be desirable, moisture and shelter from the fiercest rays of the sun are more important.

The plant illustrated, growing in a bed of the Mediterranean Heath 2½ feet to 3 feet high, is evidently happy in its surroundings. The Heaths keep the ground cool and shade the lower part of the plant. Shelter from intense sun-heat is afforded by tall trees growing at a distance, though this point does not seem so important as the prevention of the baking of the surface soil.

The Kew plants are growing in sandy loam, with a little peat and leaf-mould worked in previous to planting. An occasional top-dressing of decayed leaves is beneficial. The largest bush is 10 feet high and clothed with white flowers 2½ inches to 3 inches across, not unlike a large single Rose, with a tuft of stamens in the centre. E. pinnatifolia is an evergreen, and may be propagated by layering or cuttings and seeds, which occasionally ripen in this country. One looks forward to the time when this rare Chilian shrub becomes a thing of beauty in most gardens of this country.

A. O.

CLEMATIS PSEUDO FLAMMULA. THE FLOWERS ARE DELICIOUSLY FRAGRANT SUGGESTING VANILLA.

THE GREENHOUSE.

ON SCENTED PELARGONIUMS.

(*Continued from page* 412.)

3. Classification.—This brings me to one of the great difficulties of forming a collection. There are a certain number of groups of Pelargoniums whose parentage and antiquity are beyond dispute. Of these the cucullatums head the list with P. cucullatum of the date 1690, which a lady from the Cape told me at the Royal International Horticultural Exhibition grows all over Table Mountain. This I believe to be the parent of most of the show Pelargoniums. The next oldest group seem to be the capitatums, of which the somewhat rare variety I have is, I believe, the ancestor, introduced also in 1690. Roseum, graveolens and blandfordianum are all well-known relatives, with others too numerous to mention. Then there is the large group of citriodorums, delightful, every one of them, to sight and smell. P. grossularioides, introduced 1731, is the oldest species I have been able so far to unearth. The quercifoliums and their near relations the denticulatums (where does one end and the other begin ?), with quercifolium minus, a true Cape species, introduced 1774, and denticulatum (1789), at the head of the family tree, form another large and well-defined group. And there is the modern group of Shrubland hybrids I have already mentioned. No one could ever class them with anything but scented Pelargoniums.

These groups are all distinct from each other, and fairly easy to discriminate. But many others are difficult to place, unless their parentage can be traced. And even so it is not a light task, as, according to Sweet, they were hybridised in and in. But it is when one comes to try to draw the line between the tuberous-rooted Cape Pelargoniums on one end of the scale and the modern show Pelargoniums at the other, and make up one's mind as to how many and which are to be included in a collection of scented Pelargoniums, that the fun begins. To start with the Cape Pelargoniums. They are undoubtedly the original importations, but many of them—bicolor, ardens, fulgidum, pulverulentum—are absolutely scentless. Yet if you study the pedigree of, say, pyrethrifolium (Scarlet Pet), you will find that one parent is fulgidum. If you therefore include the child, why ostracise the parent ?

Again, we turn to the other end of the story. Half the old show Pelargoniums are hybrids from a scented Pelargonium on one side ; and P. cucullatum, as I said before, is responsible for a very long family. So where one ends and the other begins is more than I can say, and wiser heads than mine must determine the limits of scented Pelargoniums and show Pelargoniums, and solve this puzzle for us amateurs ; and also the other question of nomenclature, on which I touched in my former article. I look to Wisley to take these matters in hand, for I consider the classification and proper naming of specimens the two main stumbling-blocks in forming a collection. Meanwhile, let me give the intending collector this piece of advice : "Never discard any real old variety of Pelargonium you come across. It may not be a true scented Pelargonium, but it may help to throw light on the pedigree and development of some hitherto puzzling specimen." Before leaving this part of my subject I should like to call your attention to those specimens of the allied types of Geraniaceæ, which I alluded to just now as off-shoots of our main subject. Some of them will illustrate what I meant as to the difficulty of knowing what to include in a collection.

(1) P. tetragonum. I find this is given in Sweet as a Jenkinsonia—J. tetragona, date 1774. Its leaves are undoubtedly sweet-scented, so I include it in my collection.

(2) P. carnosum (Kew) is Sweet's Otidia carnosa. A good distinct specimen of the Otidias. Sweet says of it, Vol. I., page 98 : "This plant, which is so very different from any we have yet published, is proposed by Mr. Lindley to form a distinct genus, which we have adopted ; to it also belong P. dasycaule, P. ceratophyllum, P. alternans (P. crithmifolium) and some others." Up till now I have acquired no specimens of the Hoareas, Grevilleas, &c.

(3) Ciconiums are, I think, undoubtedly the forbears of our modern Zonals. Ciconium umbellatum is interesting as being a curious and, I believe, early form, but I have no idea what the date of introduction is. C. crenatum (1820 about) is a true Cape species, of which I possess a small plant, but unluckily it has refused to flower in time for to-day.

(4) P. fulgidum, which also refuses to flower when I want it to, is parent of several of the showiest scented Pelargoniums, and is a case in point of what I was saying just now of the difficulty of drawing the line between scented and unscented. Rollison's Unique, Ardens and Scarlet Pet are all its progeny, crossed with some other varieties.

(5) P. gibbosum, the P. glaucum of Kew, is another I include as a sweet-scented variety, for it is very fragrant, but at night only. It is a true Cape species of an early date, 1712.

(6) P. Godfrey's Pet. This is the most interesting modern hybrid I have ever come across, for after careful study I have come to the conclusion that Messrs. Godfrey of Exmouth have happened by chance on an old cross. This variety resembles in every respect the P. obscurum of Sweet, Vol. I., page 89. (Parentage unknown, raised from seed by Sir R. C. Hoare in 1821.)

(7) P. Miss Dorrien-Smith. This is interesting as one of the old varieties of the Unique section. It is the P. breesianum of Sweet, Vol. I., page 64, and a hybrid between P. angustifolium or quercifolium and one of the round-leaved varieties unknown.

4. Cultivation.—*Cuttings.*—The best months to take cuttings are February and August, and all the citriodorums strike easiest in February.

Soil.—As a broad general rule, sand, peat, or leaf-mould, and turfy loam are best. Sweet's proportions are equal parts of sand, peat and turfy loam. But we find one part of leaf-mould to three of turfy loam, and one shovelful of silver sand to a barrow-load of this, a very useful and successful mixture. For the real tuberous-rooted Capes you want more sand, and to pot them less firmly. Bottom-heat is not necessary. We always strike ours in a cool greenhouse. I forgot to say, under the head of cuttings, that there are several of the Cape species which can only be propagated by tubers ; such are P. triste, P. pulverulentum and P. ardens.

Watering.—This requires great care. When in full growth, water may be given fairly freely ; but as soon as the plants begin to rest, err on the dry side ; in fact, according to Sweet, the tuberous-rooted varieties only require watering two or three times during the whole winter !

THE BEAUTIFUL EUCRYPHIA PINNATIFOLIA NOW FLOWERING IN THE HEATH GARDEN AT KEW. (*See page* 421.)

Draughts.—These are one of the worst enemies to Pelargoniums, and must be carefully guarded against. Draughts encourage the most troublesome pest there is—aphis.

Pests.—Aphis and thrip. For the former we fumigate with nicotine and syringe with plain water; for the latter we sponge the leaves with an insecticide, such as paraffin solution.

Since delivering the foregoing lecture, Mr. J. Hudson, V.M.H., has most kindly sent me the following notes on the cultivation of scented and Cape Pelargoniums, the result of his long experience in growing this class of plants: "Miss Troyte-Bullock's remarks upon the soil induce me to say that I find finely-granulated lime to be excellent; it assists in keeping the soil sweet and open. Firm potting is most essential for the durability and healthy growth of the plants. In the winter I find it much better to keep the soil quite on the dry side in dealing with our large specimen plants, and small plants require a little more water in proportion; but it is better to keep them resting during the dull season of the year. It is a pity that no records are, so far as I know, available as to the history of many of these most interesting, if not showy, plants. When the present collection at Wisley is arranged into something like order, we may probably get to know more about them—their needs, their uses and their varied characteristics."

DAFFODIL NOTES.

Daffodils in Pots.—The Editor has recently received a letter from a reader asking if I grow my choice Daffodils out of doors or in pots under glass. As I understand the writer, he seems surprised that I adopt the first method. He obviously thinks the second way preferable. I cannot agree with him. The strain imposed upon the bulbs when they are grown in this non-natural manner is great, and, even with the greatest care in their treatment after the flowers are over, there is a most marked difference in their size and general appearance compared with those grown in the natural way. I would advise everyone to adopt the out-of-door system as their normal practice. It is a long way the best for the bulbs, and after one has given a big price for an expensive kind, one wishes to do everything that can be done for it. I have somewhat enlarged upon and emphasised my answer, because I am going to write of Daffodils in pots and try to persuade everyone who has not already done so to grow some of the better varieties in this way, not because I consider it the *best for them*, but because of the *enjoyment which it affords us*. I believe there is a great future for this method of culture, and that it will become very popular when once its possibilities are realised; but it must be remembered that even with the very best treatment the bulbs suffer, and that before they are used again they must have at least one year in the open ground. Daffodils make splendid pot plants, and they are easier to manage than either Hyacinths or Tulips. Two essentials for success are (1) early potting and (2) choice of suitable varieties.

Bulbs should be potted as soon as they can be had from the dealers, and then the pots should be stood on a hard bottom and the spaces between them filled up with sand or fibre, the whole being covered with the same to a depth of about three inches. Later on, about the middle of November, when hard frosts may be expected, the pots may be placed in frames from which frost can be excluded and given abundance of air whenever it is possible, or another 3 inches or 4 inches of covering material may be added to make them more frost-proof if they are to remain in the open. As I am now dealing entirely with Daffodils as pot plants, I would never advise anyone to try to get them in flower very early; almost invariably they are rather drawn and weak in the foliage, and need too much staking to look really well. In my opinion the third or fourth week in January is quite soon enough. From this time onwards there should be no difficulty in having a good succession of bloom.

Making suggestions about the varieties to grow is a difficult matter, for the choice is very great and everyone does not like the same thing equally well. My best plan is to indicate some of the most satisfactory doers that I had myself last year. In the front rank I always place W. P. Milner, which is a dwarf, slender plant of the trumpet section and which under glass comes almost white; 5-inch or 5½-inch pots are quite large enough to grow it in. As a contrast I mention Olympia, an immense yellow Ajax, not perhaps as sleek and smooth as a judge would like at a show, but a wonderfully effective and striking bloom. Another good variety of the same type, but with paler colouring and rather more of a show style of flower, is Stromboli. This variety is not half as much known as it should be. Few "come" so easily as this does under glass. It is almost superfluous to sing the praises of Weardale Perfection in pots. It is one of the very best. Coronet is another kind that should have more recognition from growers. It, too, "comes" easily and early. It is a medium-sized bicolor trumpet, with the yellow of a peculiarly deep shade. Firebrand always does well. Now that it can be bought so cheaply, everyone should order a few for trial. The red does not burn under glass, or, if it does, it is not perceptible for a considerable time. In this category I include such varieties as Blackwell, Lucifer, Crown Prince, Robert Browning, Topaz, Southern Star, Castile, and Ben Jonson, one of the most satisfactory of all the older Poet introductions of Mr. Engleheart. Another group which has great value for pot culture is that of the Leedsii. Fairy Queen is now becoming better known. I might call it the "Autocrat" in the same way as I style Countess of Southesk the Frank Miles of the section. Both are excellent and will not disappoint. The "giants" must have a great future. I look forward to the time when we shall have warm apricots like Thora; yellows like Evangeline, Longfellow, Louise L. Lintou, and several of larger build not yet in commerce, but whose place can be supplied now by Lady Margaret Boscawen; and ivory whites or very pale primroses, such as Empire, White Countess, Potent and St. Olaf. These "flowers of purest ray serene" are now carefully guarded, and need a golden or a silver key to liberate them. Some day a copper one will free them, and then they will be everyone's plants, like Golden Spur and Emperor. Among the bicolor and self incomparabilises and Barriis I must not omit Autocrat, Homespun, Solfatare, Seagull, Incognita and Leonie. Before I conclude this list I must put in a special plea for Queen of Spain. In the low pots that I am so fond of, nothing looks better, and I have found that it can be grown from year to year in this way if the bulbs are well and carefully dried off and then repotted. I had almost forgotten to mention the Tazettas and Tazetta hybrids, or Poetaz. The former old-time favourites are not nearly so much grown as they were twenty years and more ago. They are very easy to manage, but they must be procured every year from Holland for the best results. Bazelman Major, Maestro and a new one, Dr. Holland, that I have lately unearthed are three that might well be given a trial. Of the Poetaz I am very fond of Irene, Sunset and Jaune à Merveille as yellows, and of Aspasia, Orient and Alsace as whites. The latter, on account of its earliness, is very valuable. If Aspasia is grown, Elvira is not wanted. The charm of Orient is the delicate red edge of its cup, which is always very noticeable when it is grown under glass.

JOSEPH JACOB.

A FLOWERING SPRAY OF EUCRYPHIA PINNATIFOLIA.

CUT FLOWERS.

THEIR VALUE IN THE HOUSE.

AN authority one cannot but respect thinks it dreadfully barbarous, not to say wicked, to pick flowers. This is what he says, or rather one of the things he says: "I hold that a flower cut from its plant and placed in a vase is as a scalp on the walls of a wigwam." He goes on to say even worse things; I say "worse" because they make you feel uncomfortable. "The cut flower," he declares, "is no longer part of a manifestation of the will of Nature; rather is it a slave—beautiful, it may be, but branded and soul-destroyed." But is not this going too far? If none of us gathered flowers to enjoy them indoors (perhaps wearing them *is* different), a large amount of innocent pleasure would be lost. It is not as if it hurt the flowers to pick them. Judicious use of the knife and scissors helps a plant instead of hindering it, and some flowers seem really made to be picked. Sweet Peas, for instance, the more you pick them the faster they grow. And did not a poet say of Sweet Peas that they always seem "on tip-toe, ready for a flight"? It is seldom worth while nowadays to save seed; so what is to be gained by letting each dainty blossom fade away upon its stem like a pretty girl unappreciated?

A word of excuse is said by our critic for those users of cut flowers, indoors and otherwise, who have the misfortune to live in London. In such cases, gathered flowers, he admits, "carry the mind to beautiful associations." But is there nothing to be said for cut flowers in the case of country houses? Sometimes the rooms in these are dark and low-pitched, and want brightening up as much as any London ones with their big windows and white paint. For our own parts we confess without shame that we even plant certain flowers with no other object than that of gathering the blossoms they give us to adorn such rooms as we think would be the better for them.

In one or two rooms we fancy nothing looks so well as pink. Accordingly we take care to have plenty of Shirley Poppies, Monthly Roses, pink Sweet Peas, pink Geraniums, rosy Mallows and all the other pretty pink flowers we can think of, always ready to bring in. It is quite an art worth studying, that of growing such flowers as are best for indoor use—the bold plants that belong to hall and staircase, such as Foxgloves, giant Poppies, tall Lilies, Lupines and so on; the bright but scentless flowers that are most suitable for the dinner-table; and the host of other charming flowers one likes to have in living-rooms.

The delicate shaded pinks and rose colours of Shirley Poppies are so delightful standing in moss on dinner-tables, or indeed anywhere, that we resort to a cunning way of getting them before anyone else has them. How? Well, nothing simpler. We scatter seed on a fair-sized plot about the middle of August. By the following May the flowers will be ready, and will go on blooming till July or longer. The flowers, grown thus, are much hardier than when sown in spring for summer gathering; their stems are thicker and stronger, and the petals of the blossoms do not drop. In fact, the whole character of the Poppy seems altered; no doubt it pays for bracing treatment. How human!

Another way of looking at the subject is to remember the pleasure given us by the cut flowers sent from abroad. Those wicker baskets so carefully packed with treasures of Mimosa, Carnation and Anemone—what messages they bring us!

The plumed Mimosa, of Spring's gifts finest,
With a golden gleam and a golden voice,
As if from the country of dreams divinest
Cries clear, "Rejoice."

And the white Narcissus that poets honour,
With red gold rimming a pearly cup,
And a silver light, as of stars upon her,
Chimes sweet, "Look up!"

To those who suffer from over-sensitiveness in the matter of cut flowers (and we do sympathise with them in a way) may we suggest that if the flowers themselves were consulted, we are convinced they would never grudge the happiness they give us.

FRANCES A. BARDSWELL.

SPIRÆA ARBOREA GRANDIS, A NEW SHRUB WITH MASSES OF CREAMY WHITE FLOWERS.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Gladiolus Craig-a-Noor.—This is a very handsome red-flowered variety whose lower petals are marked by a few faint white lines. The size of the flower and its form suggest influence from G. princeps. The spike is well filled. From Messrs. Kelway and Son, Langport.

Dahlia Dungeness (Collarette).—The florets are coloured a rich scarlet, the collarette or inner petals surrounding the disc yellow. From Messrs. Dobbie and Co., Edinburgh.

Caladium Mme. Renee Marot.—This rather striking red-leaved variety has a copious spotting of white, which renders it attractive and distinct. From Mr. Hoffman, Tower House, Streatham.

Lysinotus warleyensis.—A new Chinese plant of evergreen, shrubby habit. The exhibited example was not more than 9 inches high, the white, Pentstemon-like flowers issuing from the axils of the leaves on slender pedicels. Internally the flowers, which are 1½ inches long or thereabouts, are marked by three purplish lines. Its complete hardiness has yet to be determined. From Miss Willmott, Warley Place.

Agapanthus Weilligii.—The distinctive features of this rather good African Lily are that the flowers are nearly cylindrical, being slightly expanded at the mouth, and drooping instead of erect or semi-erect as in the typical kind. This unusual feature shows the rich blue flowers to advantage. A distinct and good plant. From Mr. A. Worsley, Isleworth.

The foregoing awards were made by the Royal Horticultural Society on August 12 at the fortnightly exhibition.

A NEW CHINESE SHRUB.

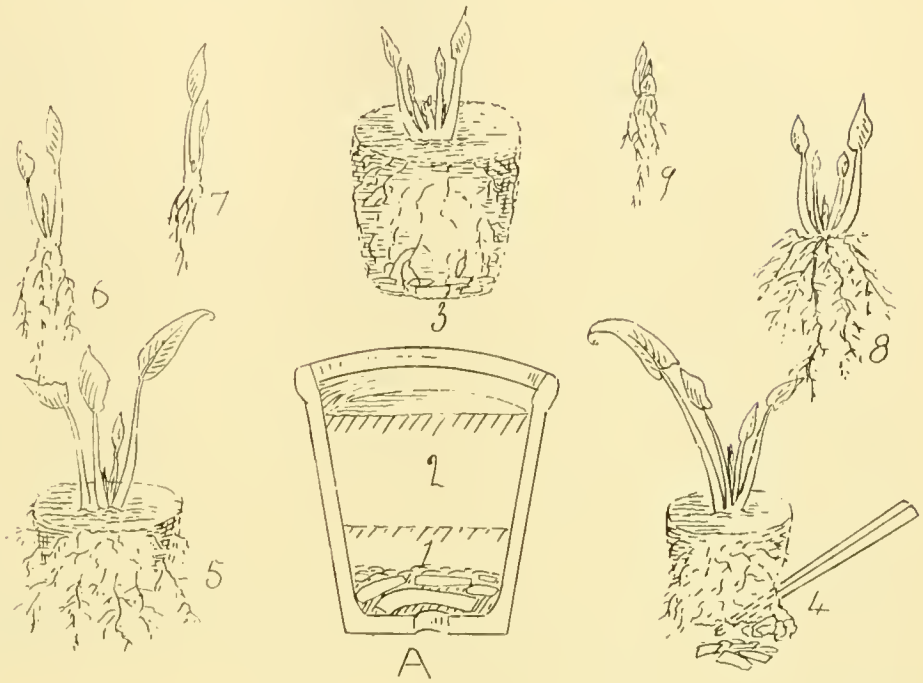
(SPIRÆA ARBOREA GRANDIS.)

THIS is a very strong-growing shrubby Spiræa belonging to the Sorbaria section of the genus. S. arborea is a variable species, and several of the most distinct forms, in addition to the subject of this note, have been given varietal names. They are closely allied to the well-known S. Aitchisonii from Afghanistan and the Indian S. lindleyana. Growing 8 feet or more in height, S. arborea grandis has large, attractive, pinnate leaves and small, creamy white flowers. These are borne in large, terminal panicles, roughly triangular in shape, 12 inches to 15 inches long, and 9 inches to 12 inches broad at the base. The flowers are closely arranged in the panicles. This is one of the many beautiful shrubs introduced from China by Mr. E. H. Wilson. Though closely allied to S. Aitchisonii and S. lindleyana, it will be an addition to our shrubs, as the flowers are borne some three weeks in advance of these two species. S. arborea grandis received an award of merit from the Royal Horticultural Society when exhibited by the Hon. Vicary Gibbs on July 29.

GARDENING FOR BEGINNERS.

HOW TO GROW ARUM LILIES.

THE leaves of these plants are handsome, and form a very appropriate setting for the flowers. Even when there are no blooms out, the plants help to furnish a greenhouse or conservatory from autumn-time to Easter, and sometimes even later. Strong plants will bear three or four flowers during that period. In exceptional cases they bear five or six. Some cultivators retain the plants in their pots throughout the summer months, keeping them dry at the roots all the time, and then shake away the soil and repot them, dividing some, but retaining others intact. Again, there are cultivators who plant out the Arums directly they have finished flowering. There is a great difference between the two sets of plants. Those retained in flower-pots make dwarfer growth in their early stages than those that are planted out. This difference may be noted in the two sets of sketches, A and B respectively. Without going into the merits of the two methods of growing the plants during the summer-time, I will only say here that it is advisable to retain a few plants in pots every year, as undoubtedly those in the pots commence to flower earlier than the others, and so prolong the supply of blooms considerably.



DIVIDING AND REPOTTING THE ARUM LILY.

The Treatment of the Plants in Pots.—In order that the soil may be kept dry around the roots while the plants are being rested, the pots are laid on their sides. About ten days before they are turned out, put the pots upright and water the soil to induce the plants to make a little new growth. In the meantime prepare a number of pots varying in size, as shown in Fig. A. No. 1 denotes drainage, and No. 2 shows the depth of the potting when that work is done. Pots from 3½ inches to 7½ inches across must be got ready. No. 3 shows the ball of soil and the new leaf-stalks. In reducing the soil around the roots of this and similar clumps, and that from large clumps lifted from the open ground, use a stick as shown in No. 4, first detaching the old crocks, and then gradually working away the old soil and any decayed roots. The new, fleshy roots must be carefully preserved from injury. If potted intact, with only a portion of the old soil removed, No. 5 shows the condition of the plant when it has been duly prepared. After dividing a fairly large plant, the separate portions will resemble Nos. 6, 7, 8 and 9, No. 9 being the crown of the old plant. The inexperienced cultivator will see at once how necessary it is to repot the various parts in pots of different sizes. I may say that it is rarely necessary to repot Arum Lilies during the winter months. If potted judiciously at first, they will grow nicely through the autumn, winter and early spring months, as they are good subjects to feed.

Fig. B shows how large plants should be lifted from the open border and divided. The best time to divide the plants is when they are first put out; but if the work is not done then, it must be when they are lifted. Drive in the garden fork at a suitable distance from the plant, so as to preserve as many roots as possible. The different parts of such a large plant when duly divided are shown at Nos. 2, 3, 4, 5 and 6. If the big plant, No. 1, were potted whole as lifted, its flowering strength would quickly diminish. The young plants in smaller pots are more serviceable. Nos. 7, 8, 9 and 10 respectively represent the different parts forming a good compost, namely, loam, leaf-soil, rotted manure and sand. After potting, keep the plants in a cool place outside; then transfer them to a frame before frost comes and, in due time, to the greenhouse. G. G.

THE LARGE PLANT IN THE CENTRE, IF DIVIDED, WILL MAKE MANY USEFUL SMALLER PLANTS.

PARSLEY FOR SUCCESSION.

There is such a demand for Parsley at all seasons that too great care cannot be taken to secure a good succession. The end of June is the most difficult time to cater for; but August sowing ought to provide against a shortage at the time mentioned, this being followed by a very early spring sowing in boxes. If sown now, the seedlings should be ready for thinning in a week or two.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Fuchsias.—In fairly sheltered positions Fuchsias are one of the best subjects for making a display during the summer months. Certainly they require a fair amount of moisture all through the season, but given this and a sprinkling of artificial manure every two or three weeks, they continue to make a show till quite late in the summer.

Propagation.—For next season's display the present is a good time to put in cuttings. These should be from the young growing tips, preferably shoots that are not blooming. Very light sandy soil is essential, and if eight or ten cuttings are placed in a 4½-inch pot and plunged in the propagating-frame, they should make root quickly. Potting off into small pots may be done before the winter, when the young plants may be wintered on a shelf in the intermediate house. With such treatment they should make plants quite 4 feet high by planting-out-time next season, and these young plants bloom much more continuously than do the old ones that may have been dried off during the winter.

Montbretias.—These continue to make a good show, and to prolong the flowering period they must not be allowed to get dry. A good soaking or two of liquid manure will do much towards keeping them going. The new variety Star of the East, exhibited so well last year, will be much sought after, and it will be a welcome addition to this already beautiful class of plants.

Dahlias are now blooming freely, and to keep up the show give regular soakings of liquid manure. In some varieties the shoots will require a certain amount of thinning for the blooms to develop nicely, and all must be kept well tied to the stakes, or much damage is likely to be done by the gales of wind which we usually get during September.

Plants in Pots.

Bulbs.—If not already done, the list of forcing bulbs should be made out and the order despatched at once. If early bloom is wanted, it is necessary that the bulbs should be potted as soon as they can be procured from the nurseryman. Presuming that at least part of the Roman Hyacinths and Paper-White Narcissi are potted up, the next bulbs to pot should be Tulips Van Thol, Mon Tresor, Yellow Prince, Prince of Austria and Rose Gris-de-Lin; Narcissi Golden Spur, Double Van Sion, princeps and Poeticus ornatus.

Chrysanthemums.—By this date most of the buds of the large-flowering varieties will have been taken, and the plants will need a good deal of looking after in respect to water and manure, the latter being given at least twice a week.

Top-Dressing.—As an inducement to keep the roots active, a top-dressing of loam, well-rotted manure and a little artificial manure should be given the plants, just sprinkling a handful or two over the surface of each pot and watering it in with a coarse rose. This may be repeated once or twice before the plants are placed indoors, and helps to sustain them in no uncertain manner.

Nerines.—Any plants that require potting may be done now, before they commence to throw up their flower-spikes, and these plants certainly look best when one or two bulbs are cultivated in a small pot. Loam and peat in about equal proportions, with a little charcoal and sand, seems to suit them well. After watering in, very little more water will be required till they commence making new roots, which they will soon do if placed in a house not too dry.

The Vegetable Garden.

Tomatoes.—Where these are not ripening as fast as one would like, the foliage may be partially removed; but if this is done, no more water should be given, or it may tend to crack the ripening fruit. To avoid this, the fruit should be gathered as soon as it commences to show colour, and if stored as advised in a previous calendar, it will be found to colour well.

Marrows.—Many of the earlier-planted Marrows will by this time have finished fruiting. Later plants must be treated liberally, according to the weather conditions, so that the crop may be prolonged as late as possible.

Gourds that are swelling on pergolas must be supported by soft string, or the heavier ones by webbing. Keep the growing points tied in regularly, though it will be found that after about this date growth will be less rapid than heretofore. Mildew may prove a trouble to the plants, and, where it appears, either dust with sulphur or spray with one or other of the advertised fungicides.

Celery.—The earliest rows should have the earthing completed, as in most establishments good, crisp Celery is in demand by the end of September. After a thorough good watering and feeding of the later rows, earthing may be commenced, taking every care to get all decaying leaves and side shoots removed before pulling the soil up to the plants; and though the soil must be made firm at the base, it is necessary to leave the top free, so that the centre of the plant may come up freely, at least till the last earthing takes place.

Fruits Under Glass.

Late Grapes.—It is still not too late to feed very late Grapes, and I have seen excellent results where the Vines have been given a light dressing or two of nitrate of soda. It certainly helps them along wonderfully, though the danger lies in giving them an overdose, especially if the skins have been allowed to get tough through a none too generous treatment.

Hardy Fruit.

Summer Pruning.—Where, through stress of work, this has not been completed, every effort should be made to finish it off at once, so that the fruit may have the full benefit of light and sun during the few remaining weeks the fruit is on the trees, to say nothing of the extra size attained by the fruit when the sap has been diverted from the wood to it.

Black Currants.—After the fruit is gathered, the bushes may have the whole or part of the old fruiting branches removed; this will let light and air into the young growths, and a better crop of fruit may be looked forward to next year than when all of the wood is allowed to remain till the winter or spring.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Japanese Irises.—These are never happier than when treated as water-side plants, but such treatment is not absolutely necessary. In common with many of the genus having rhizomes, they enjoy a good baking towards the end of the season, and it has been found a good plan to go over the plants about this time and with a fork gently raise the roots slightly above the ground-level, treading them into position again about the end of September.

The Bulb Order.—As the bulb lists are all to hand, there is nothing to be gained, but rather the risk of loss, by delay in placing orders. Everyone should invest in some Tulips. Those who wish for an early display must invest in the early section, in which the following can be recommended: Crimsons and scarlets—Belle Alliance, Carmine Brilliant, Fireflame, Scarlet Pottebakker, Prince of Austria, Rembrandt and Vermilion Brilliant. Yellows—Canary Bird, Chrysolora, Golden Queen, Yellow Pottebakker and Prince de Ligny. Pinks—Couleur Ponceau, Proserpine, Rose Gris-de-Lin and Wapen Van Leiden. Odd colours—Duchesse de Parme, Keizerskroon and Thomas Moore. Whites (which are not much wanted)—Pottebakker White, White Pigeon and White Swan. Good May-flowering or Cottage varieties at easy prices are Blushing Bride (Shandon Bells), Bouton d'Or, gesneriana major, Golden Crown, macrospeila, Picotee and The Fawn. For richness of colour and general excellence, however, the Darwins are unequalled.

The Rose Garden.

Cuttings.—With the exception of the ramblers, few Roses are now grown on their own roots. The Hybrid Perpetuals, ramblers in general and what are generally known as garden Roses can all be readily propagated by cuttings in the open border, and from now onwards until the end of September is the best time to carry out the work. The cuttings of half-ripened wood, not too gross, should be made about nine inches long, and should be taken with a heel. Prepare in the ordinary way with a sharp knife, and insert about six inches deep in sandy soil, pressed firm. Water well, and if the border is not shady, shade for a week or two.

The Rock Garden.

Potting Off Cuttings.—Cuttings as they become rooted should be potted off into small pots, either to be planted in autumn or spring. Keep them in a close frame till they take to their pots, after which gradually inure to the open air when the weather is at all good.

Primula littoniana.—Those who have not yet included this lovely Primula among their collection, I would advise to do so. I saw it in grand form the other week among Mrs. de Pree's fine collection at Saughton House, Corstorphine.

Plants Under Glass.

Hyacinths.—The orders for these must now be placed, as the best bulbs are not usually kept till the last. The following are a few trustworthy varieties: Blues—Blue Baron Van Tuyll, Czar Peter, Grand Lilias, Grand Maître and King of the Blues. Reds and pinks—Amy, General Pélissier, Gertrude, Lady Derby, Norma and Queen Wilhelmina. Whites—Baron Van Tuyll, La Candeur, La Grandesse, Mr. Plimsoll and Snowball.

Tulips.—As these are largely grown for cutting, a few good varieties in quantity are all that is required for the purpose. The following can be recommended: Scarlets—Belle Alliance and Carmine Brilliant. Crimsons—Rembrandt and Crimson King. Yellows—Chrysolora and Yellow Prince. Pinks—Rose Gris-de-Lin and Couleur Ponceau. Miscellaneous—Prince of Austria, Thomas Moore and Keizerskroon.

Daffodils.—Whether for cutting or for conservatory decoration, these are highly decorative. As with the other classes of bulbs, I only indicate varieties which are within the reach of all. Golden Spur, for a first batch; Emperor, Empress, Mme. de Graaff, Mme. Plemp, Glory of Leiden, princeps, Telamonius Van Sion, Barrii conspicuus, Sir Watkin and Poeticus ornatus. The Polyanthus Narcissus and Poetaz hybrids are also worthy of attention.

Fruits Under Glass.

Late Tomatoes.—If sufficient fruits are set, stop the leading shoots and also all laterals. Defoliation is not to be recommended, but the fruits should have all the available light possible.

Late Melons.—These must have close attention, and, as the solar heat declines, more firing will be required, especially on wet or dull days. Pinch away all superfluous shoots, but expose as much foliage to the full light as possible, or the swelling of the fruits may be arrested. Lack of sufficient water at the root means undersized, inferior fruit.

The Hardy Fruit Garden.

Storing Nets.—As nets go out of use they should be bundled up and stored for the winter, but care should be taken that they are thoroughly dry before being stored.

Strawberries.—If the weather continues dry for any length of time, newly-planted Strawberries should be well watered, as their roots have not yet penetrated far into the soil. Any plantations of old plants to be retained for another year should be cleared of runners and have the Dutch hoe run through them. Take runners for spring planting and plant thickly in nursery lines, placing some flaky leaf-mould among the roots.

The Vegetable Garden.

Spring Cabbages.—These are a valuable asset in spring, and a good plantation should be made in the first week of September; meanwhile, the quarter should be prepared for them. A good plan is to plant after early Potatoes. Good farmyard manure suits Cabbages very well, but it is not desirable to manure the crop too liberally at this season. When digging for the crop, one spade deep will be quite sufficient.

Leeks.—If good crops are expected, Leeks must receive liberal treatment, and a dressing of old fowl-manure or soot at the present time will have a magical effect.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

PINCHING SWEET PEAS (*J. C.*).—If the seedling Sweet Peas do not break naturally from the base before they are 2 inches high, pinch out the point. You can then take up one, two or three stems at discretion. Your soil mixture is excellent, and should be prepared in the autumn.

IRISES DISEASED (*Mrs. H.*).—The Irises are attacked by the Iris leaf-spot fungus (Heterosporium gracile). Spraying does little to check the disease, but the best treatment is to give the ground about the plants a thorough dressing of lime in autumn after moving all the dead and affected foliage.

PAMPAS GRASS (*W. H. C.*).—It would have been better had you mixed about one-half of light loam, together with some old mortar rubble, with the soil for the Pampas Grass. It is possible, too, that the plant gets much too dry at the roots in spite of your waterings, and moisture during growth is essential to success. You might also try frequent doses of liquid manure.

IRIS STYLOSA AND AZALEA MOLLIS (*Stake Fleming*).—The best time to remove and replant Iris stylosa is in March and April, when the plants should also be divided. A sunny and well-drained spot, with rather light soil freely mixed with lime rubble or the like, is very desirable. Firm planting without burying the rhizome (rootstock) is essential. The Azalea would be best planted during September or October.

CLIMBING PLANT TO COVER WIRE-NETTING (*Devon*).—The most likely climbing plant to succeed in the position you describe is the common wild Clematis (C. Vitalba). Although less beautiful than many of the garden kinds, it has the advantage of being vigorous and forming luxuriant growth. There is little doubt but that this plant will succeed and give slight trouble other than an annual pruning in spring to keep it within bounds.

A SWEET PEA SPORT (*G. F. F.*).—We do not like to say that this freak Sweet Pea is a throw-back to "early days," for what the origin of the Sweet Pea was before the wild type, Lathyrus odoratus, was evolved no one knows. The Sweet Pea is abnormal in several ways, but particularly in the very large keel and in the divided standard, which also bears outgrowths, called by teratologists enations. The texture is similar to that of many other Sweet Peas now on the market.

SALPIGLOSSIS FAILING (*M. J. P.*).—There is no sign whatever on the Salpiglossis of the attack of any fungus. It seems probable that your soil is not in a good condition for maintaining a proper water supply, and these Salpiglossis plants, which, at the best of times, do not take very kindly to transplanting, are suffering mainly from this cause. Lime is sure to improve the texture of your soil, and it would be best to dig in powdered quicklime in autumn, allowing from four to six weeks to elapse before planting perennials on the part treated.

"STREAK" IN SWEET PEAS (*G. M. I.*).—The root of the Sweet Pea sent is affected by the fungus Thielavia basicola, causing root-rot, and the stem is affected by the trouble known as "streak." The "streak" in the stem has been attributed to the attack of bacteria, but the point is not clearly settled whether it is not rather the result of a combination of attacks. In any case the root-rot is a serious trouble and is usually associated with wrong soil conditions, such as too heavy manuring, over-watering and the like. Did the roots get away well from the cardboard pots in which the plants were planted?

LILIES, GENTIANS, AND OTHER QUESTIONS (*Ignaramus*).—The solution of the Lily problem is, most probably, that one bulb has made plenty of both new basal and stem roots and that the other has not. The Gentians named are best raised from seeds sown as soon as ripe. The Eucomis will flower in due course when it has gathered strength. Put it into a 7-inch pot. You do not say to what Zephyranthes you refer. The flowering is usually the outcome of strength of bulb. The Linum generally opens its flowers towards the evening. Gentiana cruciata is one of the strongest growers of this remarkable family, and usually succeeds well in most deep, well-drained soils. Possibly a few applications of water would assist the development of the spike and flower-buds, unless the latter are blind owing to the excessive drought experienced a few weeks since. If this be so, the dried-up condition of the buds should reveal it upon close examination.

SWEET PEAS FAILING (*Constant Subscriber*).—The use of superphosphate and potash to the soil will do much good, provided it is commenced early enough; but if the plants are attacked already, little can be expected from that treatment. There is a fungus, a species of Fusarium, at the root of the Pea, bringing about root-rot, and this is likely to attack Peas if the soil has been used for growing Peas in before. Instead of making trenches, have the soil in which the Peas are intended to be grown treated all over alike, and do not use too much manure nor let it be put in layers. Have it thoroughly mixed with the soil all through.

CHRISTMAS ROSES (*S. W.*).—The essentials to the successful cultivation of the Christmas Rose are August or September planting, a prepared soil depth of at least 2½ feet accompanied by good drainage, and healthy, vigorous examples of three to five crowns with equally vigorous leafage. So far as position is concerned, a partially-shaded one is best, one backed by Hollies at a few feet distant or receiving the shelter afforded by more distant trees. Big clumps of these plants should never be planted, while equally useless are leafless examples which are but feebly rooted. If in your district you are close upon a chalk subsoil, special soil provision would have to be made. It is difficult for us to recommend a place to get such things, though, if you are planting largely, the better way would be to invite samples from some of the leading dealers in hardy plants, not forgetting the Scottish growers, whose stocks of hardy plants are usually of a good type.

KEEPING VIOLAS AND PANSIES (*M. E. W.*).—You might certainly lift these and give them the protection of the wall you refer to, planting them, if possible, in rather light soil. A month prior to lifting you should prune the plants, the old flowering branches more particularly, to within 2 inches of the soil, thus giving scope for the younger shoots, which will presently appear rather freely at the centre of the plants. If, when planted, you filter in some light soil among these younger shoots, they will, before spring, give you excellent material for replanting. It is just possible that some of the earliest-made shoots may require stopping. The best way of keeping both these is to root cuttings each year in September following the cutting-down process already given. Any improvised frame would do for the purpose. The perennial Mallow, Malva moschata and its variety alba, would be most likely to do with you, as the latter is one of the most desirable of border plants. Plant in early September.

TREES AND SHRUBS.

ABNORMAL GROWTH ON WILLOW (*J. B.*).—The abnormal growth on Willow sent for examination is due to irritation brought about by a minute insect known as Eriophyes triradiatus, and the growth may be compared in character to the so-called Witches' Brooms frequently found on trees. This particular type of growth has been very prevalent in some districts during the last few years, particularly in the neighbourhood of Hampstead Heath in North London. It cannot be said to have serious consequences on the trees on which it occurs, although it is somewhat of an eyesore.

CRATÆGUS PYRACANTHA NOT FRUITING (*E. A. P.*).—This shrub should not be pruned in early spring, as any growths cut out then would most probably produce flowers. Whatever pruning is contemplated should be taken in hand after flowering; you would then leave all branches bearing fruits. Being only about six feet high, your bushes are young and growing freely. They will bear fruit more freely when 12 feet to 20 feet high. Saxifraga hypnoides forms an evergreen carpet, and should make a very serviceable plant for the purpose you mention.

CLEMATISES FAILING (*A. H.*).—Your complaint with respect to Clematis plants suddenly collapsing is, unfortunately, a common failing. Various reasons have been put forward as the cause. The great majority of Clematises are grafted, and it may be that the union is a bad one, though apparently satisfactory for some years. Clematis plants with the lower part of the stem exposed to the sun frequently fail; apparently the sun cracks the stem and causes death above. There is a good deal to be said for this reason, as the plants often push out quite healthy growths below where the stem is affected. The remedy is to plant the varieties of Clematis Jackmanii and others which fail in this way among shrubs or on a western aspect where the fierce rays of the sun cannot reach the stems.

SHRUBS FOR DRY BORDER (*M. A. M.*).—Flowering shrubs that would succeed in a very dry border are Berberis vulgaris, Caryopteris Mastacanthus, Cistuses of sorts, Coluteas of sorts, Hedysarum multijugum, Helianthemums of sorts, Hibiscus syriacus in variety, Hypericum calycinum, Lavandula spica, Ononis fruticosa, Perowskia atriplicifolia, Phlomis fruticosa, Potentilla fruticosa, P. Veitchii, Rubus fruticosus alba plena, R. f. roseo plena, Spartium junceum and Ulex europæus flore plena. If your border is not too dry for the subjects named by you, there are others that may be safely planted therein, such as Abelia rupestris, Cydonia japonica, Desmodium penduliflorum, Deutzia crenata flore plena, Fuchsias (hardy), Genistas of sorts, Indigofera gerardiana, Lonicera Maackii, Philadelphuses of sorts, Rhodotypos kerrioides, Rubus deliciosus and Weigelas in variety.

FUCHSIA RICCARTONI AND LILY (*R. D.*).—In all probability the Fuchsia has occupied its position too long and the soil has become exhausted. In these circumstances the only remedy would be to remove the plant to a fresh site in the spring of 1914, well enriching the soil and dividing up the old specimen before replanting. It may be, too, that the present position is sufficiently warm, and if a summer one could be provided, so much the better. We are afraid it will not pay you for your trouble to attempt to keep the Lilies, as they rarely do much in the way of flowering the second year. Moreover, flowering bulbs are to be had so cheaply in the early months of the year, or even during the ensuing autumn. If, however, you still have a desire to try, the better way would be to lift the bulbs from the soil when flowering is past, and to put them in a little rather dry soil or Cocoanut fibre in a box, placing them in a cellar for the winter months.

ROSE GARDEN.

ROSE JULIET WITH DIVIDED BLOOMS (*E. G. F.*).—It is characteristic of the Rose. You must feed the plant well, prune fairly hard, and you will get some good blooms.

TRANSPLANTING LARGE RAMBLERS (*B. M. B.*).—You could transplant these in November, but you need to cut them back severely, and we doubt if they would be worth the trouble, seeing that you can obtain young plants so cheaply. It would take at least two years for the ramblers to recover from the transplanting, and by that time young plants would have made almost as much growth.

CLIMBING ROSE (*L. M. S.*).—Hiawatha is quite late, and you could not have anything of this class much later. Climbing Mrs. Cutbush is perpetual flowering, and also Jean Girin. For a small pergola we would suggest Grüss an Teplitz, Climbing Cramoisie Supérieure and Florence Haswell Veitch. These are perpetual flowering and should meet your wishes. A late vigorous purple Clematis is C. Jackmanii.

BRIAR HEDGE (*Chester*).—If your Sweet Briar hedge is very rough and untidy, you may cut it back a little at once, but it would be better to leave the general cutting back until the end of March next year. You may then cut it back into fairly old wood. Remove some of the soil about the roots during the winter, and replace it with a mixture of well-rotted manure and good loam. Then, towards the end of May next year, give the ground a surface-dressing of well-decayed manure.

CLIMBING ROSES AND CLEMATISES TO COVER A SOUTH WALL (*Anthony*).—The following Roses are likely to succeed and give good results: Gloire de Dijon, William Allen Richardson, Ards Pillar, Climbing Souv. de la Malmaison, Longworth Rambler, Cheshunt Hybrid, Grüss an Teplitz, Climbing Frau Karl Druschki, Alberic Barbier, Tea Rambler, Lyon Rambler, Florence H. Veitch, Hélène Granger and Elise Robichon. The following kinds of Clematis are well worth planting. Some shade should be afforded for the roots. C. montana, C. m. rubens, C. Lady Caroline Nevill, C. La France, C. Mme. Edouard André, C. Jackmanii superba and C. lanuginosa.

ROSE NIPHETOS FAILING (*Jane*).—The plant is evidently in a weakly condition, owing, doubtless, to lack of nourishment. Such a free-growing Rose as this should receive liquid manure twice a week from the time it commences to show its buds. This not only assists the buds, but also the subsequent growth, which lays the foundation for a healthy tree. Fork up the soil now if the bush is planted out, and give some liquid cow-manure, previously watering the soil with plain water. If in a pot, the same treatment should be given. The curled leaves are due to a form of mildew, probably arising from drought at the roots. Cut away such growth now, and give the plant a good spraying every other day with Jeyes' Horticultural Wash.

ROSES THROWING BLIND WOOD (*Ardeen*).—This defect is peculiar to some varieties, but is most generally attributed to want of ripening of the old wood. You would do well to repot your Roses at once, and stand them outdoors on a bed of ashes in full sun. Be careful not to over-water them, and keep all flower-buds pinched off. In October give them a good drying off by laying the pots on their sides for about two weeks; then remove to a cold frame until you wish to place them in the forcing-house. J. H. Clark is a bad Rose for splitting. It must be well disbudded and its shoots well thinned out. Possibly you would find standards to yield the best blooms under this treatment. When disbudding, always select the most perfect bud to retain.

ROSE FOLIAGE BLIGHTED (*B. A. D. G. V.*).—The Roses must be in a very bad condition. They have the black and also the white mildew. You had better have a lot of the very worst foliage cut away and burnt; then give the plants a thorough good spraying with a solution of carbolic soap, at the rate of about four ounces to a gallon of water. Or another good recipe would be: Half a pound of lime, 1lb. of sulphur, and half a pound of soft soap, all boiled together in a gallon of water. Use half a pint of this liquid to two gallons of soft water. Unless the tree is a very old one, we advise you to dig it up and burn it, rather than waste time in trying to cure the blight, as it has obtained such a strong hold of the foliage and may infect the healthy trees. Probably this particular tree is in a bad state at the roots, which has checked its growth; and when growth is arrested, then is the time that blights obtain a strong hold of the plant.

THE GREENHOUSE.

ORCHID LEAVES TURNING BROWN (*C. Mayhew*).—You do not give us sufficient information concerning the treatment given to the Orchids of which leaves were enclosed. However willing to oblige our readers, we are greatly handicapped by this lack of knowledge on important points. We should say that an excess of atmospheric moisture, combined with a low temperature, is at the root of the trouble; but there are other possible causes.

GLOXINIAS (*Mrs. G. F. C.*).—There are several possible reasons for the unsatisfactory condition of your Gloxinias. In the first place, as the surface of the pots is rather moss-grown, it would indicate that the plants are potted in unsuitable soil, or that drainage is at fault. Next, the small hothouse in which they were grown was probably too hot for them, and the change into a cooler structure too drastic. Gloxinias are very often grown in too much heat, with decidedly unsatisfactory results. With regard to manure-water, the time to apply it will depend entirely upon the condition of the plants. It must only be used when the roots are in a good, healthy state, so that the plant is able to assimilate the food, as, if it is not in this condition, stimulants of any kind will do far more harm than good. In order to give your plants the best chance for another season, they should be kept in the greenhouse, where they are shaded from the full rays of the sun. After the flowers are past, the plants should be watered as before till they show signs of going to rest by the leaves turning yellow, when less moisture will be required. When quite dormant, water may be discontinued altogether. They may be wintered in the pots they have grown in, keeping them quite dry in a temperature of 50° to 60°. In spring shake them clear of the old soil and repot in a mixture of loam, leaf-mould and sand, where in a minimum temperature of 55° they will soon start into growth. They will not need much water till the leaves appear.

FRUIT GARDEN.

NECTARINES CRACKING (*W. H. T.*).—Probably the atmosphere of the house is too humid and moist. Give abundance of air day and night while the weather is fine. Giving the tree a good soaking of water at the roots a short time previously would also cause cracking. In watering your trees you should so contrive to give them a good soaking before the second swelling is too far advanced to cause this cracking.

GUMMING IN PEACH TREES (*B. A. I.*).—Allowing the trees to make gross and ill-ripened shoots, especially if they are injured by bruising the bark, is one of the chief causes of gumming. Check the growth by root-pruning, training the shoots carefully. Allowing the roots to run too deeply in stiff soil, thus preventing maturity of growth, is also a cause. Lift the trees in bad cases, replanting nearer the surface. Training the branches thinly is an excellent remedy.

SILVER-LEAF IN FRUIT TREES (*B. A. I.*).—Sulphate of iron in powdered crystal form mixed with the soil in March is an excellent remedy for silver-leaf. For a tree ten years old use 6lb., and so on according to the age. Take out a trench, 1 foot deep, from the stem of the tree, 4 feet wide on each side of the stem, mix the sulphate evenly among the soil and roots as the digging proceeds, and, if the roots are not found at that depth, go deeper, bringing them nearer the surface.

APPLE TREES INFESTED WITH INSECT PESTS (*Greystoke*).—Spray your trees with the following winter wash. The best time to do this is in February, after the trees have been pruned. Iron sulphate, half a pound; lime, quarter of a pound; caustic soda, 2lb.; paraffin, five pints; and water, ten gallons. Dissolve the copper sulphate in eight or nine gallons of water. Slake the lime in water and add to the dissolved copper sulphate, running it through a fine sieve. Add the paraffin and keep it stirred, and then add the caustic soda and water to bring the whole up to ten gallons. Spray your trees again just before the flower-buds burst open with Abol, a preparation which is most effective in clearing fruit trees of all manner of pests and blight, and which can do no harm to the trees or tenderest flowers. Abol may be bought, with instructions how to use it, from any nurserymen or seed merchants advertising with us.

GRAPES MILDEWED (*J. F. B., Norfolk*).—Mildew always seems to exist in the air, ready and waiting for favourable atmospheric conditions and an opportunity to seize its victims, the Vine under glass being one of its favourites. To know what are the conditions which invite and favour its attack is the surest way of frustrating its intentions. The atmospheric conditions which mostly favour an attack are a low, damp night temperature with a sudden rise by sun-heat on a sunny morning, and afterwards the admittance of too much cold air to bring down this high temperature. The foliage of the Vine is very tender at this time, and highly sensitive to sudden changes in temperatures, which cause a chill and create the conditions which favour an attack by this pest. The remedy lies in continuing to have a gentle heat in the pipes, especially at night, until the Grapes have done stoning. The foliage and berries will then have become riper and harder, and better able to protect themselves against its attack. With slight heat in the pipes at night, air must be given in moderation, both front and back; a free circulation will then be secured and the atmosphere rendered buoyant, fairly warm and free from the defects noticed above. The vinery having air on all night, the temperature will rise gradually in the early morning, and there will not be the necessity to open the ventilators too wide at any one time. Heat in the pipes will not be so necessary during the day, unless the weather is cold and damp, when a little should always be applied in the early stages of the Vine's growth.

KITCHEN GARDEN.

SPRAYING POTATOES (*T. V. H.*).—For spraying garden crops of Potatoes the Vermorel Knapsack Pump is an effective, easily-worked and handy machine. It is not expensive, and may be had from any horticultural sundriesman advertising in THE GARDEN.

PEAS GOING WRONG (*E. C.*).—The Peas appear to be attacked by a newly-described bacterial disease, the full history of which is at present unknown. There is also some suggestion of root-rot; but as the disease has not yet been fully worked out, it is impossible to give any remedial measures. It would be well to grow the plants next season on soil which has not been previously used for growing Peas.

CELERY ATTACKED BY FUNGUS (*J. P.*).—It would have been well to have commenced the treatment of the Celery plants for the Septoria attack earlier than this, as it is a disease which, when once it has gained a hold, is extremely difficult to overtake. It would be well to spray with Bordeaux mixture from now onwards at intervals of three weeks. Bordeaux mixture is made by dissolving in separate wooden vessels, in soft water, 6lb. of copper sulphate (98 per cent. purity) and slaking 4lb. of best quick (or unslaked) lime, each of them requiring about five gallons of water. When the copper sulphate is dissolved and the lime thoroughly slaked and cold, pour the two together and dilute to forty gallons with water. Apply as a very fine spray, covering the plants completely with it.

BEETROOT DOING BADLY (*Eve*).—Seeing that you buy your seed from the seed merchants mentioned, there can be no question of its purity and power of growth. Land should not be freshly manured for the growth of Beet; instead it should be grown in soil which has been liberally manured for a crop the previous year, say, Potatoes or Peas. Dig the soil deeply in early spring and prepare for sowing on May 1. If the soil is heavy, place a layer, half an inch deep, of old, fine potting soil at the bottom of the drill; this will help the seed to vegetate quickly. The seedlings come up quickly at this time, and the little plants are often devoured by slugs or minute flies before they are seen by the naked eye. Soot and lime in equal quantities should be scattered lightly over the rows in the course of a fine day after the seed is sown, and every eight or nine days afterwards until the young plants are an inch or so out of the ground and free from further attack.

FEEDING VEGETABLE MARROWS BY ARTIFICIAL MEANS (*Barker*).—Our correspondent says: "I have heard it is possible to feed Vegetable Marrows by, I think, piercing the stem and placing through it a horsehair with its ends in a sugar solution, or something to that effect." Nature is so long-suffering that she will bear any torture inflicted upon her, seemingly, with meekness and resignation; but in the long run she is bound to have her revenge. And so it would be in this case. The tearing and bruising of the tissues of the stem by the act of piercing through it could only result in destroying many of the sap-vessels whose office it is to supply the plant with nutriment for its life and growth. A plant can only feed through its roots and some constituents which its foliage absorbs from the air. For the grubs infesting Carrots, Cauliflower and even eating the roots of the Parsley, try what watering with lime and soot water will do. To eight gallons of soft water add half a gallon of fresh lime and a quart of soot. Well mix and churn with the water at the time the lime and soot are placed in the water. Let the mixture stand for twenty-four hours, and water with clear water only, without the sediment. If this does not answer, the most effectual way is to break up (with a hand-fork or trowel) the surface soil round the collar of the plant until the surface roots are reached, and then to search for the grubs. They are generally found near the surface, and the plants are often saved in this way.

MISCELLANEOUS.

ANALYSING WATER (*C. Butler*).—You should get the water analysed by a professional analyst. Probably it could be done at the East Anglian Institute of Agriculture at Chelmsford for a small fee for the purpose mentioned. There are mineral springs in your neighbourhood, and the test to which you refer would not reveal any impurities injurious to plants, though it would be an indication of suitability or otherwise for human consumption.

SLUGS (*Chester*).—These have been a considerable source of trouble in some districts for the last eighteen months; it is thought by reason of the great amount of rain experienced last year. Some people trap them by placing lines of bran or sawdust about the ground, while others sow lime or soot over the ground. On any vacant ground it would be a good plan to apply a good dressing of soot and unslaked lime before digging it over. It would also be a good plan to surround beds of annuals with rings of soot, sawdust, or bran. Another plan for destroying slugs is to place slices of Turnip about on the ground. The slugs shelter beneath these, and may then be caught. They may also be searched for by the aid of a lantern during the early part of the night. The "V.T.H." Slug Trap, supplied by Mr. Vernon T. Hill, Mendip Nurseries, Langford, Somerset, is highly to be commended.

NAMES OF FRUIT.—*E. C.*—1, Lord Suffield; 2, Ecklinville Seedling; 3, Cardinal; 4, Keswick Codlin; 5, Nelson's Codlin; 6, Tower of Glamis.

NAMES OF PLANTS.—*Interested.*—1, Eupatorium cannabinum; 2 and 4, Apium nodiflorum; 3, Gnaphalium uliginosum; 5, Stachys Betonica; 6, Carduus crispus; 7, C. arvensis; 8, C. lanceolatus; 9, Senebiera Coronopus; 10, Hypericum perforatum; 11 and 12, H. hirsutum.——*T. C. C.*—1, Sedum Sieboldi; 2, Othonna carnosa; 3, Sedum sarmentosum variegatum; 4, Tolmiea Menziesii; 5, Ceratonia Siliqua (Carob Tree); 6, Aspidium lepidum; 7, Sedum reflexum.——*Woodman.*—Rhus Cotinus (Venetian Sumach) and Hedera Helix chrysophylla.——*D. A.*—1, Verbascum phœniceum; 2, Linaria dalmatica; 3, Pentstemon barbatus.——*J. S., County Durham.*—1, Geranium pratense; 2, Alonsoa Warscewiczii.——*Hedgerley.*—Escallonia rubra, Rhamnus Frangula (Berry-bearing Alder) and Rhododendron viscosa variety.——*J. S., Hants.*—Sisyrinchium striatum.——*A. O., Suffolk.*—Centranthus macrosiphon. It is an annual, native of Spain.——*J. B.*—Roses: 1, Captain Hayward; 2, White Pet; 3, Marquise de Sinety; 4, Billiard et Barré; 5, A. K. Williams; 6, Baroness Rothschild.——*Lieutenant-Colonel H. F. D.*—We believe the Rose to be Mrs. C. Curtis Harrison.——*H. B., Birmingham.*—Lychnis oculata.

SOCIETIES.

PERTHSHIRE SWEET PEA SOCIETY.

THE Perthshire Sweet Pea Society held its fourth annual show in the City Hall, Perth, on August 9. The Very Rev. Provost Smythe opened the show, the Earl and Countess of Kinnoul and Sir John and Lady Dewar being also on the platform. The show was the finest the society has ever held, and both quantity and quality showed an improvement on those of former years. A gold medal offered by the society, and open to the trade, for the best table of Sweet Peas was won by Messrs. Thyne and Son, Dundee, with a magnificent display. For the best twelve bunches of Sweet Peas, for which Sir John Dewar offered a gold medal, Mr. E. Cowdy, Belfast, was awarded the prize with a splendid lot of blooms. Another very successful competitor was Mr. J. Petrie, Crathes Castle, who won two silver medals, offered by the society for six bunches and for the same number of new Sweet Peas, besides a special for the most points won at the show. In the division for growers of from 15 yards to 20 yards, Mr. R. Duncan, Kemnay, Aberdeen, won the society's challenge cup for nine bunches, and also a medal for six bunches. The National Sweet Pea Society's medal for small growers was won by Mr. Glover, Colinton, Edinburgh.

SCOTTISH HORTICULTURAL ASSOCIATION.

ABOUT ninety members of the Scottish Horticultural Association participated in the excursion to Carberry Tower, the seat of Lord Elphinstone, who had kindly invited the association to visit the gardens. On arrival, the members, who were accompanied by the president, Mr. David King, Osborne Nurseries, Edinburgh, were met by Mr. D. Kidd, the gardener, and by him conducted through the gardens and grounds. Much was observed to admire, and the party were highly pleased with the excellent order in which they found everything, both under glass and outside. Mr. Kidd is well known as one of the ablest of Scottish gardeners, and Carberry Tower Gardens were found full of interest. The herbaceous borders were very fine, and the Dutch garden, an old and striking feature of the place, was much admired for its quaintness and beauty. Roses were very fine indeed. The company was kindly entertained at tea by Lord and Lady Elphinstone, to whom, on the motion of the president, a hearty vote of thanks was accorded. A similar recognition was made of the courtesy and kindness of Mr. Kidd.

THE BRITISH PTERIDOLOGICAL SOCIETY.

THIS society as usual, held its annual meeting on August Bank Holiday, this time on the 4th, at Totnes, Devon, after a preliminary investigation of the locality as a promising Fern-hunting region by the hon. secretary, Mr. Charles T. Druery, and Mr. W. B. Cranfield, the treasurer, who found it all that could be desired as regards abundance of Ferns and of species. At the business meeting the balance-sheet and the membership were found to be highly satisfactory, no fewer than 160 members having replaced the original score existing at the time of the, so to speak, reconstruction of the society and the establishment of the *British Fern Gazette*, edited by Mr. Druery, which was at once recognised as deserving of the support of all lovers of British Ferns in their beautiful and multiform varietal characters.

The Seven Stars Hotel was fixed as the meeting-place, and prior to and after the meeting the members present organised various hunting expeditions to Dartmoor and the surrounding district of South Devon, with very satisfactory results, although a two months' drought had played havoc with all the exposed Ferns, which in many places had been killed outright and in most presented a flaccid and shrivelled appearance, which militated seriously against any recognition of varietal features. Notwithstanding, however, this handicap, a number of good varieties fell to the lot of the searchers, showing that Nature was still busy in producing sports, although one might imagine that the great number of such acquisitions by the coterie of old pioneers, with their sharp eyes, would have practically exhausted the chances of fresh discoveries. A number of very beautiful forms obtained by selective sowing were sent by absent members as a proof that in this direction also much had been, and was still being, done to improve, if possible, the original wild varieties through their capacity of further variation by their spores. From a patriotic point of view, therefore, the society, devoting itself purely to our native Ferns, has proved itself to be well worthy of support, and it is hoped that its membership will continue to increase in view of the fact that the quarterly issue of the *British Fern Gazette*, under the experienced editorship of the well-known expert, Mr. Charles T. Druery, V.M.H., F.L.S., fully repays the expenditure of the 5s. per annum (August to August), which secures its receipt and constitutes the subscriber a member of the large body of Fern enthusiasts, with which it brings him or her (for many members are ladies) into more or less direct contact. Mr. Druery is also the hon. secretary. His address is 11, Shaa Road, Acton, W., and he is always ready to send a specimen number of the gazette to anyone contemplating membership.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C

NOTES OF THE WEEK.

Cutting Dead Wood from Trees.—Now will be found a good time for looking around trees and shrubs and cutting out all dead wood, particularly from deciduous ones, as it is not always an easy matter to detect the dead wood when the leaves are off; certainly not so easy as now. It is very important to put a coating of tar on each of the cuts afterwards to prevent disease getting into the wound.

Sowing Grass Seed.—Bare spots on the lawns or grass paths should be pricked up with a fork, and grass seed sown. If preparation has been made for the making of lawns, the seed should be sown now, as much time is saved and better results are obtained than if left till the spring. Dull, showery weather is preferable, but if the weather should be very dry, a few waterings will greatly assist the seed to germinate quickly.

Root-Pruning Fruit Trees.—September is the best month for this operation, which generally throws into a fruiting state fruit trees which have either rooted into an uncongenial subsoil or are growing too much to wood. It is well only to attack one-half of the roots in a season. Keep about three feet clear of the stem, and be sure you get right under the tree. Trim all cut, bare roots with a sharp knife, and work in some maiden loam among them.

Sweet Pea Royal Rose.—For garden decoration and cutting, this is a delightful Sweet Pea. It is in the way of John Ingman, but the stock is more reliable, coming quite true, which, unfortunately, cannot be said of some of the seeds sold as John Ingman. The flowers are rich rose red, showing no trace of magenta, and nicely frilled. The plants are robust, autumn-sown seeds growing 10 feet high in the usual soil of a good herbaceous border. The later flowers maintain their size, colour and length of stalk better than many sorts.

Saxifraga florulenta.—Considerable interest was displayed in this curious species of Saxifraga, shown recently before the scientific committee of the Royal Horticultural Society by Mr. Chaplin of Great Amwell, Ware, in whose garden it had flowered. It was collected by him, and had apparently been growing in shade in cultivation, though it appears to grow alike in sun and shade in its home in the Maritime Alps, where it occurs at high altitudes. It has, perhaps, only once before flowered in this country, when it received a first-class certificate in June, 1872, being shown by Mr. Maw.

Honeysuckles as Bushes.—In a garden visited recently we noticed several extremely fine specimens of Honeysuckle. There were several varieties, some of the bushes being about nine feet high and more in diameter. They were profusely flowered, and, as the positions were open ones on the lawn, the plants drew the attention of visitors both on account of their size, quantity of blossom and delightful fragrance. It is not at all a difficult matter to establish such bushes if they are given the support of a strong stake during the first three or four years.

A Blaze of Colour.—For some years now the flower-beds in the front of Buckingham Palace have been planted entirely with the rich-coloured Zonal Pelargonium Paul Crampel, and this season there is no exception to the rule. The flat, unbroken surface of the beds is, however, relieved by good-sized specimens of the same variety. The whole of the plants have done remarkably well this summer, and present such a blaze of colour as one rarely sees. It may be questioned whether this is the most suitable arrangement for the position, but there can be no doubt that as far as showiness is concerned it could not be surpassed.

Valuable Spring-flowering Plants.—There are several varieties of the well-known Silene pendula for making our gardens look gay in the late spring, of which Silene pendula ruberrima and S. p. Snow King are two of the best. As a groundwork for larger plants, an edging, or for massing in the borders, they are most valuable. Seeds should be sown now, and the seedlings will make good plants for putting out later. As the majority of Silenes suffer more from the damp during the winter than they do from the cold, it will be found advisable to sow them in sandy soil, and, if the ground is of a heavy and cold nature, to delay the transplanting till the early spring.

Transplanting the Christmas Rose.—Few flowers are more appreciated than the Christmas Roses (Helleborus niger), blooming as they do at a period of the year when almost all flowers are at rest. The plants thrive in almost any ordinary garden soil, but prefer a rich loam, with a moist, rather shady, perfectly-drained situation. Now will be found a good time to take up the large clumps and divide them. If this operation is left till later, the transplanting will check the blooming. They are excellent for growing in pots in the greenhouse if potted up now and placed in a frame, but they should not by any means be forced.

Early-Flowering Chrysanthemums.—Those annuals and biennials that are now past should be removed from beds or borders and the gaps filled with early-flowering Chrysanthemums. These are not used to the extent that they should be for such a purpose, and many a bare spot could be made to look gay with these valuable plants. They can be grown with very little trouble in a piece of reserved ground, planting them out as space occurs. If care is taken, they can be transplanted without suffering in the least, even when in bloom; but it will be found advisable to cut round the plants with a spade about five inches or six inches from the stem, and give a good watering a day or so before transplanting. Should the weather be dry, the plants should be watered once or twice, giving an occasional syringing over the foliage.

CORRESPONDENCE.

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

Campanula Zoysii.—By way of experiment I have this year tried this plant both in sun and in semi-shade. While that with full exposure flowered earlier, I must give the palm to the plant in semi-shade, as it produced more numerous and finer flowers than the plant facing south-west. It is a quaint little plant which always interests visitors. —B., *Weybridge.*

Lilium pardalinum.—I bought one of these Lilies in 1910. The next year (1911) there was one head; this year (1913) there have been seven heads from 4 feet to 6 feet high with over sixty flowers. It is planted in a hot, damp corner, with the roots shaded by a large Rose bush, and it was a grand sight to see these brilliant flowers, a mass of scarlet and orange.—M. W. SUGDEN, *Wells, Somerset.*

Erica mediterranea hybrida.—Is it not yet possible to give this fine Heath another name than either this or E. hybrida, which, as you remark (issue August 16, page 407), may cause confusion? It is so distinct from E. mediterranea that it is a pity to attach the name of the latter to it at all. I cannot recollect having come across any authentic account of its origin. It is one of the most valuable of our hardy Heaths, and far and away more generally useful even than E. mediterranea itself. —S. A.

Is Rose Irish Elegance Free-Flowering?—During the present year this charming single Rose has been very freely used for table decorations at all the leading shows, and in most instances has secured the premier award. In discussing it some time ago with rosarian friends, I was, however, told none too gently that it was not a Rose for the garden, as it did not flower freely and its blooms were too fugacious. The latter statement one has, unfortunately, to agree with, but I think the accompanying photograph proves that it is free-flowering enough. The photograph depicts a part only of a bush, and was taken early in August, so that the flowers shown are the second crop. It would be interesting if other readers would give their opinions of the merits of this Rose for the garden.—A. B. ESSEX.

ROSE IRISH ELEGANCE IN A READER'S GARDEN.

The Creeping Jenny.—In addition to the suggestions in your valuable little note in THE GARDEN of August 16, page 405, one may mention that the Creeping Jenny (Lysimachia Nummularia) is very useful for covering the margins of a pond, where it thrives splendidly. It is excellent for covering the surface of the soil occupied by early bulbs which love some moisture, and there the Creeping Jenny is much finer than when in a drier place. It is as good in sun as in shade. The golden-leaved variety looks especially bright, and some pieces on the margin of a little Water Lily pond are very pleasing from June onwards.—S. ARNOTT.

Campanula pusilla Miranda.—Some two or three years since I acquired a plant of this from the Craven Nursery, and I am glad that I did so, as I think it the daintiest Campanula I have seen. It is of dwarf habit, only occupying a small space, with sweet, dome-shaped, pendent flowers of a grey blue colour, so produced as to be shown to the best advantage, and not crowded together like those on Campanula pusilla Miss Willmott. Campanula pusilla Miranda was, I believe, found by Mr. Reginald Farrer, and alpinists owe him a debt of gratitude for it. I had a good display of bloom on my plant in June, and now it is kindly flowering again.—W. A. BILNEY.

Outdoor Tomatoes.—To the interesting remarks made by a correspondent in the issue dated August 16, page 406, I should like to say a word in favour of the variety Sutton's Early Market for outdoor culture. It is especially valuable for the purpose, being early and setting its fruits very freely. They are of medium size, smooth, rich red in colour, and six to twelve or more are borne in a cluster. In a cold frame, on a south wall and in the open, the results are equally satisfactory.—A. O.

—— When writing my last note on these (THE GARDEN, August 16) I quite forgot to mention a very interesting statement which appeared in the *Münchner Neueste Nachrichten* at the end of the hot season of 1911. It was there stated that poor people were regularly seen to carry to town baskets full of ripe Tomatoes, and on enquiry it was found that these were being gathered along the banks of the River Tsar, where they grew of their own accord. How this happens it was explained—that the town sewage enters the river a little way below the city, and as at the time when the snow melts in the mountains the river carries a considerable flood-tide and overflows its banks, the Tomato seeds, which find their way into the river through the sewage canal, are, when the waters recede to the river bed, deposited and left to germinate along its banks and ripen their fruits in favourable seasons.—E. HEINRICH.

Wahlenbergia vincæflora.—It is gratifying to see your appreciation of this plant, as it is, in my opinion, one of the best recent introductions in the way of an alpine. I have planted it in a south-west aspect, and it has been full of flower for several weeks past, regardless of the drought we have had to endure so long. All flowers (especially Roses) are much smaller this summer than usual on this red-hot sandy soil. Possibly in a normal summer the flowers on this plant would be larger than now.—B., *Weybridge.*

Scentless Musk.—For several weeks past I have read with interest the notes on scentless Musk. I have three pots of Musk, Mimulus moschatus, and have had them by me, as far as I can remember, nine years, and potted them up every year in the spring. These plants retain as good a scent now as they had when I first purchased them. The only treatment I give is the ordinary one. I keep them in a cool greenhouse in the winter months, and outside on shelves in the summer. The scent is beautiful, and I would be only too pleased to send a cutting to readers who wish for it.—F. M., *Surrey.*

—— For some years past my small-flowered yellow Musk has been quite scentless, and I do not care to keep it, but it continues to grow in a pot with a Date Palm, and if it is nothing else, it looks pretty and green.—M. W. S., *Somerset.*

—— If you do not consider the subject is worn out, I regretfully add my testimony to the fact that Musk has ceased to contribute any scent at all to my garden. I have been puzzling over it and observing with interest the remarks on this subject in your valuable paper.—M. SYBIL WHITEFOORD, *East Brook, Wokingham.*

—— I asked an old and observant jobbing gardener the other day: "Do you believe that Musk has lost its smell?" The answer came, prompt and decisive: "Noa, I dooan't! It'll smell fast enough when t' weather's soft and warm, but niver in a cold north wind like this year." And I think, in the main, my opinion is like his. Musk never did smell late on in the season, and it needs a moist, still air, not too cold, to give off its fullest perfume in June, just when the first flowers are opening. There may, of course, be scentless seedling forms that have ousted the type in Southern gardens, but the sweet-scented Musk is still to be found in Yorkshire (and elsewhere, too), I have no doubt. This season, with its cold, drying, "Polar-current" winds, has prevented the Musk from giving off its perfume, and now it is too late, for this year at any rate.—EDWARD H. WOODALL.

HERBACEOUS BORDERS IN THE NORTH CANONRY GARDEN, SALISBURY CLOSE.

Hudson & Kearns, Ltd., Printers, London, S.E.

Salvia turkestanica.—I saw this Salvia for the first time the other day in the gardens of Mr. Alexander Porter, florist, Davidson's Mains, Midlothian, and was struck with its suitability for the wild garden. The plants had not been very liberally treated, but stood about three and a-half feet high. I fancy that with good cultivation it would attain a height of 5 feet. The flowers are pure white, and the bracts retain their whiteness long after the flowers are over. The leaves on the plants I saw were about six inches by nine inches.—Charles Comfort.

The St. John's Wort.—Few kinds of plants of low growth excel this as a dry border subject. A steep bank not more than 100 yards from the sea in a Southern town is beautifully covered with the St. John's Wort, which not only possesses luxuriant foliage, but bears flowers profusely. In another garden I find the plant equally successful on the level ground, also in a sandy rooting medium. As undergrowth to tall shrubs and trees it is thriving, even though the trees rob the plants of much nourishment. There are few flowering shrubs, if any, that will succeed so well as the St. John's Wort under the shade of trees. Readers who experience any difficulty in getting plants established in such positions may make a note of the one here referred to.—G., *Bournemouth.*

Zonal Pelargonium Maxime Kovalevsky.—This Pelargonium, which has been before now referred to in The Garden, forms, from the distinct tone of its blossoms, quite an uncommon feature among the different varieties bedded out at Hampton Court. The actual colour, a kind of soft orange, is difficult to describe, and at a little distance one would scarcely take it to be a Pelargonium. At Hampton Court it has a bed to itself, with the exception of an edging of variegated Holcus and a few dot plants of Leucophyta Brownii. This distinct Pelargonium was raised by M. Lemoine of Nancy, and distributed about half-a-dozen years ago.

Lilium chalcedonicum.—Many good examples of this delightful Lily were noted at the Royal Horticultural Hall recently. It is a member of the Turk's-cap or Martagon section, though the leaves are not arranged in whorls as in the true Martagons. The flowering season of L. chalcedonicum is, as a rule, towards the latter part of July and the first half of August, though, of course, it varies somewhat according to season and locality. It grows generally from 3 feet to 4 feet in height, the rather small flowers being gracefully recurved, of a thick, wax-like texture and a sealing-wax red colour. From their substance the blooms retain their freshness longer than those of many other Lilies. The Scarlet Martagon, as L. chalcedonicum is popularly termed, needs a fairly holding loam, and is seen at its best when fully established. Apart from any other consideration, it is particularly interesting as being one of the supposed parents of the charming L. testaceum.—H. P.

FORTHCOMING EVENTS.

September 2.—Scottish Horticultural Association's Meeting. Flower Show at Bicester.

September 3.—Flower Shows at Glasgow (two days), Alnwick, and Preston (three days).

September 4.—Flower Shows at Peterborough and Kilkenny.

September 6.—Flower Shows at Mauchline and Kirkby Stephen. Société Française d'Horticulture de Londres Meeting.

THE FLOWER GARDEN.

HARDY ANNUALS FOR AUTUMN SOWING.

(*Continued from page* 420.)

Time to Sow.—This is a subject that is too often passed over and lightly thought of. When the right time for sowing comes along, the ground is not ready or other work is pressing. The proper time for sowing is from mid-August till about the third week in September. Occasionally a very late sowing is successful when we have a mild November, or even until Christmas; but it is not worth the risk. Sow early and get good, sturdy plants, not necessarily tall, which will stand the winter. If the flowering position is not ready, sow on the reserve border at the right time and transplant later. Take as a guide in this matter the sturdy self-sown seedlings of Larkspurs, Poppies, Eschscholtzias and Nigellas. Most of these ripen seeds in August, and they come up and thrive freely, becoming sometimes almost as bad as weeds. Rigorous thinning is another important matter. It is no use expecting three or four plants to thrive in a space sufficient only for one plant. Thinning, however, should be done by degrees. At least double the number of plants which are to remain to flower should be left for the winter in case of losses, for there are slugs and snails to consider as well as the weather conditions. The final thinning need not be done till March or early April.

Antirrhinums and Stocks are hardy, but in many districts the protection of a cold frame is worth considering. Some of the Sweet Peas, the new and scarce sorts in particular, should be sown in pots and kept in a frame during the winter. Statice Suworowii is another plant deserving similar consideration. In bleak and cold gardens, also those situated in confined areas, where sparrows, slugs and snails are pests and try the grower's patience, the garden frame will be found most useful in winter to accommodate Clarkias, Godetias, Candytufts, Sweet Sultans, Star Chrysanthemums, Scabious, Sweet Alyssum and Cornflowers. Shallow trays or boxes are preferable to pots. Boxes 15 inches by 9 inches, and 2 inches deep, will hold three to four dozen plants, which are sufficient to make several nice clumps in the mixed border or to fill a small bed. An occasional sprinkling of soot and lime all round the sides of the frame, just inside, will stop slugs and snails, and a handy-man will soon make a framework of thin-meshed wire to fit on the top of the frame, as the glass lights should only be used during unfavourable weather.

To Sow Outdoors.—The following annuals do not transplant readily, and should be sown where they are to flower: Poppies, the best sorts being the Shirley Poppy; the double Opium Poppy, 3 feet in height, with greyish green foliage and immense double flowers; the single scarlet and black Poppy, Papaver commutatum or P. umbrosum, 2 feet to 2½ feet high; and the dainty Iceland Poppies in yellow, orange and white. The tall, branching Larkspurs, 3 feet in height, may be had in mixture or separate colours, Sutton's Rosy Scarlet being one of the best for massing. The Dwarf Rocket Larkspurs are a foot in height, with dense, closely-packed spikes of flowers. Wonderful development during recent years has been noticeable in the Eschscholtzias, for, in addition to the old yellow and orange sort, there are several varieties with pretty pink and rosy red flowers. The Cornflower blue flowers of Nigella Miss Jekyll find many admirers, set as they are in a dainty network of narrow foliage, aptly described as Love-in-a-mist. The height of the plants varies from 12 inches to 15 inches.

The next group we may consider are those which may be transplanted, but are preferably sown where they are to flower. Most of these are suitable for small groups or lines along the front of the mixed border, as they range from 6 inches to 12 inches in height: Asperula azurea setosa, Limnanthes Douglasii, Collinsia bicolor, Phacelia campanularia, Saponaria calabrica, Virginian Stock, Venus' Looking-glass, Gilia tricolor and Gypsophila elegans.

Clarkias and Godetias, Candytufts, the pot Marigold, Calendula officinalis, the blue Cornflower, Scabious, Sweet Sultans, Coreopsis tinctoria and annual Chrysanthemums are all of easy cultivation, and may be sown where they are to flower, or on a spare border and transplanted. So much has been said and written about Sweet Peas that most readers will be familiar with their cultivation. Experts are now pretty well unanimous that for garden decoration and show purposes autumn sowing is the best, spring sowing being only necessary to provide a succession of blooms for garden decoration and cutting in August and September.

A useful dozen annuals for cutting are Sweet Peas, Star Chrysanthemums, Orange King Calendula (also a beautiful plant for massing in the garden), Coreopsis tinctoria, German Scabious, Shirley and Iceland Poppies, arranged with Gypsophila elegans, double Godetia, Clarkia Firefly, blue Cornflower and Spiral Candytuft.

GERANIUM STRIATUM.

Now and again we come upon this old-fashioned flower, which was known to, and was described by, Parkinson more than 250 years ago, but which has not retained the hold upon the affections of gardeners that it should have done. Probably the bedding mania drove this good hardy plant from many gardens, and it has been well-nigh forgotten by the compilers of catalogues and writers on hardy flowers. Yet it has lingered in many old gardens, and in one of these—a true old-world one—the writer saw, not so very long ago, a big mass of this striped Crane's-bill, with its charming flowers with a groundwork of white, and all veined with a lovely red veining, so delicate and so pretty in its markings that it is almost impossible to credit that it is not artificial, did we not know that Dame Nature in her coloured tracery far excels the handiwork of the most skilful among us. This mass was very pretty, but it did not require it to bring home to the writer the true charms of Geranium striatum, for he has known and grown it for a good many years. It is a favourite which he always likes to bring before the notice of the garden visitor who may not have been acquainted with the flower and its delicate pencilling, which gives so much charm to the petals. This Crane's-bill is an easy plant to grow, doing well in either sun or shade, but growing more vigorously in the shade than in the sun, though not, I think, so pretty as in the former. There can be no question as to the hardiness of this plant, although it comes to us from Southern Europe, where it has a warmer clime than ours. It adapts itself to the border or to the rockery, and in either gives us high and lasting pleasure indeed.

Dumfries. S. Arnott.

TREES AND SHRUBS.

A DOUBLE-FLOWERED CEANOTHUS.

(C. ALBUS PLENUS.)

There are only comparatively few shrubs which flower during late summer and autumn. Among

CEANOTHUS ALBUS PLENUS.

these the garden varieties of Ceanothus are exceedingly pretty. Most of the spring-flowering section are what may be termed on the borderland of hardiness, and thrive best when planted against a wall, except in mild districts. The autumn-flowering hybrids, on the other hand, seldom suffer when growing in the open, except in the very coldest districts. Compared with the spring-flowering kinds they are even more showy, embrace a wider range of colours, and the blossoms last longer in good condition on the plants. Flowering on the current year's shoots, fairly hard pruning should be practised in February or March to induce the production of vigorous shoots. The plants, as a rule, are grown as bushes in borders or beds, but may also be trained against a low wall or fence. In the latter case a few shoots must be left nearly full length, so that in a year or two the space allotted is covered.

Ceanothuses thrive in most well-drained garden soils, but a heavy clay loam should be avoided. Cuttings root freely during July and August in a close, slightly-heated propagating-frame. Potted off singly when rooted in autumn and kept in a heated pit during the winter, good bushy plants can be obtained full of flowers the following autumn. To lay a good foundation, remove the tips of the young shoots once or twice when the plants are small. One of the secrets of success with the garden varieties of Ceanothus, which are hard pruned each spring, is to raise a fresh supply of young plants from cuttings about every fourth or fifth year.

Shrubs with blue flowers are not numerous; with the Ceanothuses it is the predominating colour. The following list comprises a representative selection: Albert Pittet, light pink; albus plenus (illustrated), double white, changing to cream; Cerès, dwarf, light pink; Charles Détriché, deep blue; Coquetterie, rose carmine; Croix du Sud, dark blue; George Simon, carmine pink; Gloire de Plantières, deep azure blue; Gloire de Versailles, light blue; Indigo, indigo blue; Marie Simon, pink; Perle Rose, rich deep rose; Pinguet Guindon, deep carmine; Sirius, metallic blue; and Arnoldii, greyish blue.

SPIRÆA WILSONII.

This Spiræa, introduced a few years ago from China by Mr. E. H. Wilson when collecting on behalf of Messrs. James Veitch and Sons, is proving to be a useful addition to our deciduous flowering shrubs. Robust in growth, Spiræa Wilsonii forms a large, spreading bush, 5 feet to 6 feet or more in height. The inflorescences of white flowers terminate short axillary shoots, which develop from the upper two-thirds of last year's vigorous shoots. As these bend over in a graceful, arching manner, a bush in full flower presents a pleasing picture. The flowers are borne in flattened, rather compact, rounded corymbs about the middle of June. The corymbs are 1½ inches to 2½ inches across, the individual flowers a quarter of an inch in diameter. In addition to S. Wilsonii, Mr. E. H. Wilson has introduced three other closely-allied species, namely, S. Henryi, S. Veitchii and S. sargentiana. These four Spiræas are very appropriately named in compliment to four persons who have spared no efforts to enrich our gardens with plants from Central and Western China. S. Wilsonii differs from S. Henryi in its smaller, more compact inflorescences and the slightly shorter and rather narrower leaves, and the flowers open from two to three weeks earlier than that species. These Spiræas thrive in any good garden soil, and are readily propagated from seeds or cuttings. The latter, made of the half-ripened shoots, root freely during August or September in pots of sandy soil in a close propagating-frame. The long, arching branches also layer readily. Forming a shapely bush, S. Wilsonii makes a nice lawn specimen for small or large gardens, while for large clumps and shrubbery borders it is well worth consideration. An occasional thinning out of the older branches immediately after flowering is desirable, to give the young shoots space to develop and ripen their growth.

CHOICE BERRY-BEARING TREES AND SHRUBS.

There are not wanting signs of an early autumn, so that notes on berry-bearing trees and strubs may not be out of place at this season.

Everyone is aware of the beauty of the Pyracantha or Fire Thorn, for it makes many a wall gay for several months of the year. Then there is its near relative Cotoneaster angustifolia, or Pyracantha angustifolia as people are now beginning to call it. This also is an evergreen, but the fruits are orange or golden in colour. Less hardy than the ordinary Pyracantha, it should always be placed against a wall, except in the South or South-West Counties. Light, loamy soil suits both plants. The different kinds of Cratægus or Thorn are, as a rule, very showy when in fruit; but if a few kinds only are wanted, preference should be given to C. mollis and C. coccinea, with large, bright red fruits; C. punctata, with dark red, and its variety xanthocarpa, with yellow, fruits; C. cordata, with small, orange scarlet berries; C. prunifolia, with red fruits; and C. Carrièrei, with orange and red haws. These are all perfectly hardy, and all thrive in ordinary garden soil. They do not require any special pruning, an occasional thinning being all that is necessary.

Many of the Cotoneasters take high rank among berry-bearing plants. For many years we have had a number of showy kinds from the Himalaya, while recent years have witnessed the introduction of other beautiful sorts from China. Even at the end of February their season of beauty is not over, for we may see masses of C. rotundifolia covered with bright red berries, a condition which has prevailed since the early days of September. For some reason this species is not troubled by birds in the way that others are, and the birds only take the berries when nothing else can be obtained. This particular species grows about four feet high, and forms a good-sized bush of open habit. C. horizontalis is another useful plant which thrives well on a dry bank or against a wall. Its berries are scarlet. C. thymifolia and C. microphylla are two evergreen kinds of dwarf habit suitable for growing on banks or rockeries. The berries are

SPIRÆA WILSONII.

red. Although naturally dwarf-growing kinds, they are excellent for walls, and readily attain a height of 15 feet in such a position. C. pannosa and C. Franchetii are Chinese species which grow 8 feet or 10 feet high, with a free branching habit. The scarlet berries are freely produced, but their effect is somewhat marred by the light covering of greyish down with which they are protected. Two quite new species of exceptional merit are C. bullata and C. applanata. Both are Chinese species of bushy habit, bearing bright red fruit. In the case of the former they appear in rather large bunches. C. acutifolia, although not a new plant, has been brought into prominent notice by a particularly free-fruiting form which has appeared from China. Everyone should obtain it who is fond of red-berried shrubs. The old C. Simonsii has been a friend for many years. Of upright habit, it bears yellow and red berries with great freedom. C. frigida is perhaps the giant of the group, and may sometimes be met with between 20 feet and 30 feet high. Its large heads of bright red fruits are particularly showy in autumn.

Pernettya mucronata is a dwarf, evergreen, berry-bearing shrub belonging to the Heath family. Growing about one and a-half feet to two feet high, it is conspicuous throughout autumn by reason of its red berries. There are varieties with light and dark red fruits, and others with white and purple fruits. Rather moist soil should be provided, and notice must be taken of its dislike for lime. Another decorative fruiting plant belonging to the Erica group is the Strawberry Tree (Arbutus Unedo). This forms a large bush or small tree with evergreen leaves, rather showy flowers and round, orange and red fruits, which are covered with short, spiny excrescences.

The Pyrus family contains a great many ornamental kinds. The Siberian Crab and its varieties, together with its close ally P. prunifolia, produce particularly bright-coloured fruits, while the various forms of P. Malus, of which John Downie, Dartmouth and Transcendant Crab are worthy examples, are all useful. The Rowan (P. Aucuparia), and its varieties, together with the American Rowan (P. americana), are general favourites; but, unfortunately, the berries are often taken by birds as soon as they are ripe. Pyrus Aria (the White Beam Tree) is showy in hedgerows in some parts of the country. Its several varieties, however, are well worth a place in the garden. When one only is required, the variety majestica should be chosen. A closely-allied tree is P. rotundifolia. Like the Aria varieties, it bears good-sized heads of red fruits. P. intermedia and P. pinnatifida belong to the same set. They also are showy, and possess the advantage of being excellent trees for planting in town gardens.

The new Berberis Wilsonæ is one of the most beautiful fruiting kinds among the newer Barberries; its fruits are red. In the same family there are many kinds of decorative value, notably B. dictyophylla, B. Lycium, B. aristata and the common B. vulgaris. For fragrance, nothing is more prominent than the dwarf-growing Cydonia Maulei. The golden fruits are an inch or more in diameter, and scent the air for a considerable area in the vicinity of a bush. Rosa rugosa is perhaps the most showy Rose when in fruit, but all the kinds are worthy of attention, particularly R. alpina pyrenaica, R. macrophylla, R. canina and R. lucida. Euonymuses are represented by many showy species, notable ones being E. europæa, E. latifolia, E. americana and E. planipes.

The list might be added to considerably, but those mentioned serve to direct attention to the best for general purposes. W. D.

ROCK AND WATER GARDEN.

THE CAMPANULAS OR BELL-FLOWERS.

It is difficult to conceive a more valuable class of plants for the outdoor garden than the Campanulas or Bellflowers. They are most diverse in their habits of growth and in their general appearance. They present us with species suitable for the choicest rock garden or flower border; they supply us with plants for bedding or for the mixed border; while in the wild garden a number of the stronger growers can be accommodated with advantage. As they differ in appearance, so do they vary in their cultural requirements. Some are extremely easy to cultivate in ordinary soil, while others call for the best skill and care of the cultivator in giving them what they desire in the way of aspect, soil, or moisture.

In discussing the Campanulas it is difficult to arrange them in groups, but the writer thinks it advisable to divide the perennial and biennial species and their varieties into two sections, not according entirely to their heights, but because the first group is, as a whole, better suited for the rock garden than for the border. Any of the best alpine Campanulas will, however, succeed in the border. For example, C. carpatica and its forms, with C. portenschlagiana and a number of others, make excellent border flowers in a moderately light soil. So, also, the owner of a large rock garden may utilise some of the taller species mentioned for borders for the decoration of his rockeries. Some of these are, indeed, of remarkably telling effect in certain parts of the rock garden, where their impressive appearance is fully appreciated.

Campanulas for the Rock Garden.—The wealth of these lovely flowers is embarrassing in the extreme, but one can hardly have too many, especially as they are so valuable after early alpines are out of flower, and are so distinct from the other plants which bloom from June onwards. A considerable number are remarkably easy to cultivate, and call for little attention for years, except division, when they grow too large, and some top-dressing in autumn and spring. Others require more care, and these will be referred to under their names. Generally speaking, they can be raised from seeds, or increased by division in spring or autumn. Seeds may be sown from February to June under glass, or as soon as they are ripe, in pots or pans of sandy soil slightly covered with fine earth and placed under glass. Seedlings should have air as soon as they show above the ground, ought to be pricked out as soon as they are fit to handle, and be planted in their permanent positions after growing on. Some root from cuttings, but division is the best method to adopt with many. If small pieces are taken, they should be potted and nursed under glass for a short time before committing them to the rockery. The writer finds that partial shade is excellent for most of the dwarfer Campanulas, and that they last longer in bloom there than in full sun. On the other hand, some require full sun. A sandy, gritty soil is best for most of these

THE WALL HAREBELL (CAMPANULA PORTENSCHLAGIANA) IN THE ROCK GARDEN.

rock garden Bellflowers, but certain species either require or are best grown in the moraine, in which most of them will thrive admirably. The annual species will be mentioned briefly at the close of these articles. Synonyms abound among the Campanulas, and there are grave differences among those best acquainted with them as to their true names. No claim is made to infallibility on this point, but the best authorities are followed, unless for reasons which appear to the writer to be conclusive.

Campanula abietina.—A well-known rock or border plant, growing about nine inches high, but occasionally exceeding this, and bearing upright, open flowers of purple. It does well in gritty soil, but should be divided every two years, or it will flower sparsely and may die out. It requires a good deal of moisture during the growing season. A South European species, liking sun, and flowering in June and July.

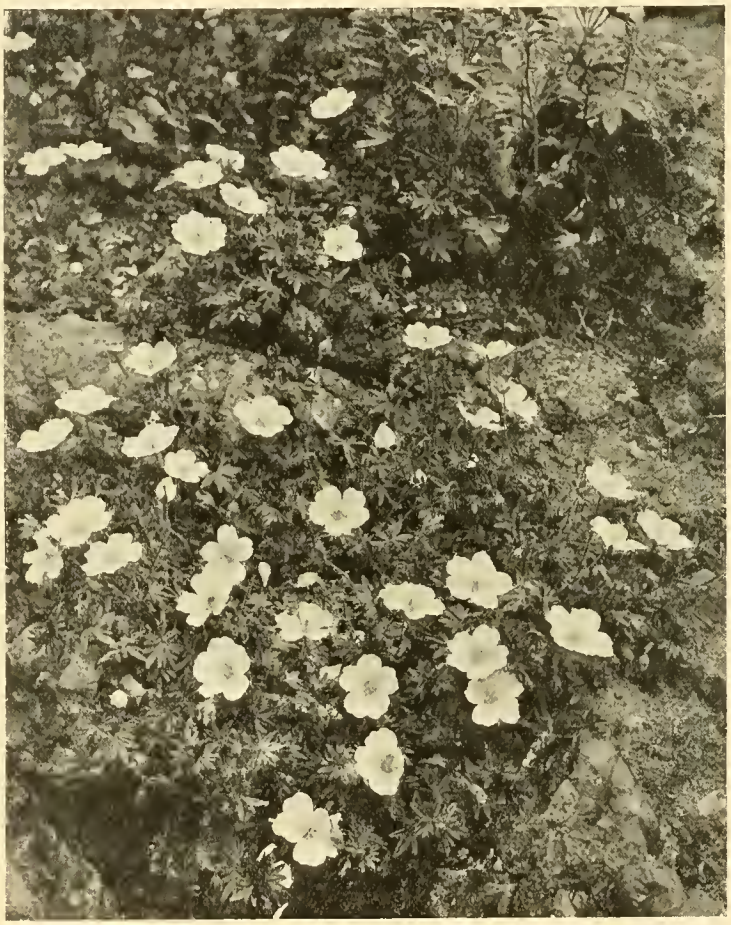
C. Adami.—See bellidifolia.

C. Allioni.—One of the troublesome but most beautiful of the rock garden Campanulas. It has rather hairy leaves and big blue bells in July, and is only 2 inches or 3 inches high. Grow in very sandy, gritty soil and in semi-shade. It needs top-dressing in spring and autumn, and soakings with water in spring and summer. The moraine is the best place for it. As with many others, slugs should be guarded against. There is a beautiful white variety. Lime should be kept from this plant. S. ARNOTT.

(To be continued.)

A BEAUTIFUL GERANIUM.

GERANIUM LANCASTRIENSE originating, I believe, in the Isle of Walney, is a variety of G. sanguineum, and not only has it at one leap altered its colour from magenta crimson to a delicate pink, veined with fine purplish red lines, but the bushy, sprawling hummock of its progenitor has given place to a close-growing, compact habit, which makes it an ideal plant for the smallest rock garden. My plants, which are growing in an open, sunny spot, in gritty, though otherwise ordinary soil, do not exceed 2 inches or 3 inches in height, while the whole carpet, composed of deeply-divided leaves, is, during June and early July, one mass of blossom, which latter, owing to the deeply-coloured veins, has the appearance of a much richer colour than the groundwork of the petals themselves. The buds nod very gracefully, while after pollination the long, spear-like fruits are held quite erect. The texture of the petals suggests crumpled silk, while the stigma and filaments, with their rich pink coloration, are in striking contrast to the anthers, which are yellowish buff. This year in particular the plants have set a considerable quantity of seed, and I am hoping to raise a number of further plants therefrom. It is interesting to notice on a dry day, when the fruits are ripe, how the carpels split, each portion curving into a kind of spring, which enables the seed to be thrown to a considerable distance. REGINALD A. MALBY.



GERANIUM LANCASTRIENSE, FLOWERS DELICATE PINK.

LINUM ARBOREUM.

THIS is, to my mind, the best of the yellow forms of Flax. It flowers so wonderfully freely, and is of such a delightful clear Daffodil yellow, lighter and with less of orange in it than in Linum flavum or L. capitatum; and also, when out of flower, the leaves are attractive by reason of their colour, a good glaucous green, almost steely blue. Here it is not a very long-lived plant, three year old plants often perishing in winter or appearing to flower themselves to death; but as it is easily struck by cuttings it should be treated as one would a Cistus and keep a reserve of young plants to fill up gaps. The illustration on page 435 is of a plant moved to its present position last autumn and about two years old. The effect of its brilliant yellow flowers against the grey Kentish Rag rock was very delightful. It comes from the Levant, and is one of the many good things introduced by Sibthorp, the author of that magnificent book, the "Flora Græca." In his day it was grown as a greenhouse plant, and is said to form bushes several feet high under that treatment. Here in the open I have never known it get much higher than a foot before it was killed. Young plants are certainly hardier than older and more woody specimens, as is the case with so many of the more tender Cistuses.

Waltham Cross. E. A. BOWLES.

HERBACEOUS BORDERS AT SALISBURY CLOSE.

(See Special Supplement.)

THE herbaceous borders of the North Canonry Garden in the Close at Salisbury are beautiful not only in themselves, but also in regard to their surroundings. They face north and south, and the soft green turf walk that divides them is 115 yards long. Westwards, one looks on to the Avon and its green water-meadows beyond; eastwards, on the old canonical house and the great cathedral spire towering behind and above it. The borders are 12 feet wide and always full of colour, from the early spring, when the Crown Imperials are a special feature, through the summer months on into the autumn. But perhaps their time of perfection is the latter half of June or the month of July. Then, one cannot easily forget the beauty of the climbing Roses (Crimson Rambler, Hiawatha, Lady Gay, Captain Christy, Dorothy Perkins, Olga de Wurtemburg and many others) at the back of the border, of masses of Delphinium, Anchusa, Spiræa, Cimicifuga, Pyrethrum and Campanula; and in the foreground bush Roses and Violas of every kind and description. Their season, however, is well-nigh over, in this month of August, but their places are filled by more autumnal blossoms. Phlox and Helianthus, Erigeron and Echinops, Tritoma and Antirrhinums of various species, and clumps of Gypsophila and Statice are giving a wealth of colour and beauty to the borders now that makes one cease to regret their forefathers.

CONSTANCE PAGE-ROBERTS.

SWEET PEA MOTHER O' PEARL.

IN a very mild way Mother o' Pearl has had the interesting experience of waking up to suddenly find itself famous. I am surprised at the number of enquiries I have had about it, and all *because I said it was sweet.* It is clear that scent is still appreciated, although it seems to have been so much neglected in the evolution of the much-belauded beauties of to-day that one might well think it were otherwise. Mother o' Pearl was raised by Mr. H. Aldersey of Aldersey Hall, Chester, and was the result of a cross made in 1900 between Mrs. Fitzgerald and Lady Grisel Hamilton. It was one of the F^2 seedlings which survived the wet summer of 1902, and it was fixed by the old-fashioned pre-Mendelian system of the gradual elimination of the rogues. I once asked Mrs. Aldersey which was her favourite Sweet Pea among all that her husband had raised. Her answer was unexpected: "Mother o' Pearl, because of its delicate colour and sweet scent." Mr. Aldersey tells me that his Moonstone and Opal are the result of a Countess Spencer selection crossed with Mother o' Pearl. In both the delicious fragrance of the pollen parent has to a very large extent been retained. JOSEPH JACOB.

DAFFODIL NOTES.

Midland Daffodil Society's Affairs.—In the first week in August, Mr. Herbert Smith (the hon. secretary), Mr. C. L. Adams and myself had an informal meeting to talk over the affairs of the Midland Daffodil Society. Mr. Smith said that he would be able to continue to act as secretary as heretofore, and that the society might count on the same clerical help from the staff of Robert Sydenham, Limited, as has been so unsparingly given in the past. This is good news indeed, for next to the personality of our late treasurer I look upon these as the two most important factors in the building up of our annual show. They are the sure foundations on which the superstructure of bloom is laid. Another point that was discussed was the annual dinner. It was, of course, the private affair of Mr. Sydenham, but it was invariably given and conducted in such a way that it seemed to have become part and parcel of the show. Several expressions of opinion had reached us as to the advisability of trying to continue it. It was eventually settled that Mr. Adams should sound certain members to see if enough support could be obtained, apart altogether from the funds of the society, to make the holding of an annual dinner a possibility. The result is to be reported to a general meeting, which it is proposed to hold in the early part of December. Until then, too, Mr. Smith will act as hon. treasurer.

The Midland Daffodil Society's Report and 1914 Schedule.—There is but little to comment upon in either. In the latter it will be noticed that the seedling and new varieties section has been still further extended by the inclusion of two new classes, one for three distinct varieties not in commerce, of which nine stems of each must be shown, and the other for six distinct varieties of white trumpet Daffodils that have not been in commerce more than four years, in which whiteness is to be the supreme test. I feel sure this policy of extension is sound and wise. Seedling-raising has spread, and continues to spread, among Daffodil-lovers, and every society ought to provide as many opportunities as possible for its members to display their achievements in friendly rivalry.

Royal Horticultural Society's Classified List of Daffodils.—I am glad to say that a new edition of this necessary little book for show men will be issued this autumn. I wonder how many hundred names will be in it! Will it be possible to keep it up to date now so many seedlings are coming up? The task is one of increasing difficulty, and yet its necessity does not diminish, as Colonial and Dutch seedlings must be now reckoned with. No one wants Admiration to be one variety in Holland, another in New Zealand, and a third at home.

A New Zealand Narcissus Committee.—I fear I am very ignorant about the doings of Australasian Daffodillers. I knew that there were fine shows down in those distant parts of our Empire, and that the names of Alistair Clarke and Thomas were household words as seedling-raisers; but I had no idea until recently that events had so far progressed that a Narcissus committee was in existence in the Canterbury Horticultural Society, whose headquarters are at Christchurch. A most interesting paper will appear in the Bulb Number of The Garden, written by the secretary of this committee, dealing with the progress of the flower in New Zealand.

The Royal Horticultural Society's Daffodil Year Book.—Before these notes are in print the publication of the Year Book will be an accomplished fact. I would like to take this opportunity of saying that I hope readers will remember that it is a "first attempt," and, secondly, that I was not appointed to collect material until it was too late to make full arrangements about getting reports of provincial shows. These, I trust, will be fuller and more plentiful another year, should there be sufficient support forthcoming to warrant a second attempt. Naturally, the Royal Horticultural Society has a mercantile side; or, to put it plainly, a second Year Book depends upon the number of copies of No. 1 that are sold. The price is 1s. 6d. (or 1s. 9d. post free), and it may be had from the Royal Horticultural Society's Offices, Vincent Square, Westminster. *Verb. sap.*

Joseph Jacob.

THE FRUIT GARDEN.

TREATMENT OF RASPBERRIES AFTER FRUITING.

It is a matter of much importance, especially if the crop has been a heavy one, to cut out all the old fruiting canes immediately they have ceased bearing, and also the young, useless growths not required for next season's crop. Raspberries are among the easiest of fruits to cultivate, and if given reasonable attention produce a very profitable return. They delight in a rather moist, well-drained, fertile soil, and, being essentially surface-rooting plants, require all the fibrous roots to be preserved as much as possible and liberally fed with liquid manure in hot, dry weather, together with good mulchings of thoroughly-decayed manure.

LINUM ARBOREUM IN MR. E. A. BOWLES' ROCK GARDEN. (*See page* 434.)

Our favourite variety here is Superlative, and if the berries are not as sweet as some, they are most abundantly produced in the majority of seasons. The soil at Wrotham Park is rather light, resting on gravel, so that constant attention to liberal feeding is of the greatest importance to maintain healthy, fruitful canes.

About the end of July or the beginning of August all the old canes are cut down to the ground, taken away and burned, and the strongest of the young growths which have been made this season are tied rather loosely to the wires about six inches apart, so that both light and air may circulate freely among them to encourage firm, well-matured canes. If it is intended to make fresh plantations when the proper time for planting arrives, some

of the small canes may be removed carefully with roots attached and planted temporarily for the time being. Having gone carefully over the beds and put them in order, we usually apply a good coating of manure on both sides of the rows, and give a thorough soaking of water if the weather proves very dry. H. Markham.

Wrotham Park Gardens, Barnet.

HINTS ON RIPENING MELONS.

In hundreds of gardens Melons will be ripening during August and September, and inexperienced cultivators will hesitate as to whether they should water as usual or withhold it. During a rather long experience as a Melon-grower I do not remember having had a single failure owing to watering generally. I have seen many plants killed prematurely through lack of moisture at the roots after the fruits began to colour and mature. Of course, the plants do not need as much moisture at the roots nor in the air at the stage referred to, but I never favoured the drying-off system. The withholding of water is generally adopted with the idea that the fruits will be richer in flavour. If carried too far, the system will result in loss of flavour instead of an increase. It is a fact that thousands of plants are practically dead when the fruits are gathered, whereas they ought to be in a condition to bear a second crop on extended laterals if necessary. I always continued the supply of water up to the time the fruits were ripe. At first, when the Melons gave off a slight aroma, less water was applied. During the last week sufficient water was given to keep the leaves plump and in a fresh condition only. The Melons were cut directly they were ripe enough and stored in a cool room for two days before they were cut open, and very few approved varieties failed to give satisfaction. Plenty of air was admitted during the ripening period, and on hot days the floor was freely damped. B.

THE GREENHOUSE.

ERLANGEA TOMENTOSA.

This pretty Composite, which is closely allied to Vernonia, is so useful for conservatory decoration that it is worthy of more general cultivation. It was introduced in 1907, and is a widely-distributed species in Tropical Africa, ranging from British East Africa to the Zambesi. Its pretty pale mauve flowers are very attractive, having a resemblance to a Eupatorium. It is easily propagated from cuttings placed in a warm case. From cuttings rooted early in March large plants some 5 feet high can easily be grown in one season, stopping them several times to ensure a bushy habit. Such plants require to be potted on until they are in 8-inch pots. They commence flowering early in the New Year, and continue in good condition until June.

ERLANGEA TOMENTOSA, WITH ATTRACTIVE PALE MAUVE FLOWERS.

From later-rooted stock nice useful plants in 4½-inch pots can be grown, as shown in the illustration. In its earlier stages it may be grown in an intermediate temperature; afterwards ordinary greenhouse temperature is all that is necessary. There are two forms in cultivation, one the typical plant with grey, tomentose leaves. The other form has smaller green leaves, and is not such a coarse-growing plant. On this account it is better suited for growing in small pots, as it has a stiffer habit, and its flowers, if anything, are darker in colour. J. S.

HYDRANGEAS IN THE GREENHOUSE.

In the more favoured parts of these islands the common Hydrangea (H. Hortensia) is justly valued as one of the finest outdoor shrubs. Even where it cannot be depended upon to prove satisfactory out of doors, it is greatly appreciated for the embellishment of the garden in many ways. Grown in large pots or tubs it forms a notable feature on terraces, balconies or similar positions, and either as bushy specimens or as comparatively small plants it is much grown for the decoration of the greenhouse or conservatory. The cause of the Hydrangea changing its normal pink flowers to some shade of blue has aroused a considerable amount of interest. It is usually considered to be due to the presence of iron in the soil; but absence of lime would also appear to play a part.

Probably in no other way does the Hydrangea appeal so much to the general public as when grown in comparatively small pots and confined to a single stem, each plant carrying one huge head of blossoms. For flowering next year in this fashion the cuttings should be taken at once, selecting for the purpose shoots that, if left on the plant, would, as far as can be determined, flower next year. Put in sandy soil and placed in a frame kept close and shaded, they will soon root, and must then be wintered in a cool greenhouse or in a frame safe from frost. The cuttings should be put into single pots, so that they may, if required, stand the winter without being disturbed. Some, however, for the sake of succession, prefer to shift some of the strongest plants into larger pots as soon as they are sufficiently rooted.

The common Hydrangea, the dark-stemmed variety cyanoclada, and Thomas Hogg, with smallish heads of white flowers, were for many years the principal kinds grown. Then came Mariesii, with very large sterile blossoms, but limited only to a few around the outside of the cluster. The colour of this is pink, but there is a white form known as Veitchii. Within the last few years, however, a great number of new garden varieties of H. Hortensia have been raised, chiefly on the Continent. Many of them are very fine, and one at least may be said to have bounded into popularity, namely, Mme. E. Moullière, which bears enormous heads of white flowers. This quickly became an established market plant. Another new kind is Lilie Moullière, whose flowers are of a bright rose pink with a light centre. La Perle is another beautiful pure white flower, remarkable for its fringed edges. E. G. Hill, said by the raiser—M. Lemoine—to be the result of a cross between H. rosea and H. Otaksa, is a very fine variety with soft rose flowers. The largest individual blossoms, but they are not very numerous, are those of Beauté Vendômoise, of a pale mauve tint. A variety which Messrs. Cutbush of Highgate, who grow these plants so well, say, if treated with their preparation, makes the finest blue Hydrangea bears the extremely long name of Générale Vicomtesse de Vibraye. Another of the newer kinds that has caught on in this country is Mlle. Renée Gaillard. This bears huge heads of milk white flowers, whose edges are markedly toothed.

While all the above are forms of H. Hortensia, another totally different species is largely employed for greenhouse decoration. This is Hydrangea paniculata grandiflora, which, if pruned back hard and well fed, produces huge heads of creamy white blossoms. Out of doors it does not, as a rule, bloom much before August, but brought on under glass it may be had in flower a good deal earlier. A variety of the North American H. arborescens known as grandiflora, with rounded heads of pure white flowers, something like those of the Snowball Tree, was sent here from America a few years ago, and increases in popularity each season. H. P.

GARDENING FOR BEGINNERS.

HOW TO INCREASE VIOLAS.

THERE are few gardens, both large and small, that can afford to dispense with the bedding Violas or Tufted Pansies. They are so easy to grow, thriving in most soils and situations, and with care and attention will continue in flower for six or seven months, namely, from April to October. And when in bloom

1.—THE GROWTH ON THE LEFT, BEING COARSE AND HOLLOW STEMMED, IS OF NO VALUE AS A CUTTING. ON THE RIGHT IS SHOWN THE BEST FORM OF CUTTING, BEING OF RECENT DEVELOPMENT AND ABOUT 2 INCHES IN LENGTH.

what a blaze of colour they make! and there is such a wide range of colours to choose from. August and early September are the best months to insert cuttings. There are on most of the plants at this time plenty of young shoots, 1 inch to 2 inches long, pushing up in the centres of the tufts of growths. Try to pull these out carefully, not cut them with a knife, and if a few roots are already attached so much the better. Inserted now while the nights are warm, the cuttings will soon develop into sturdy young plants, quite able to stand the winter in the open if the protection of a cold frame is not available.

A good position to root the cuttings is under the shelter of a north or west wall, where plenty of light will reach them, but little or no sun. Should it be intended to insert several hundred cuttings, a bed of light sandy soil may be made up on the border and hand-lights or a frame placed on it. For smaller quantities use shallow boxes, a convenient size to handle being 15 inches by 9 inches, and 2 inches deep. A suitable compost or mixture of soil consists of two parts sandy loam, one part flaky leaf-mould, and one part road grit or coarse sand. Press the soil fairly firm, and spread over it a thin layer of fine sand to trickle in round the cutting as each hole is made with a dibber and the cutting inserted. As soon as each hand-light or box is completed, water the cuttings well with a fine rose on the watering-can. A box of the size given will hold fifty cuttings. Rather more space may be allowed when dibbling them in a frame on a prepared border, 1½ inches apart and 2 inches between the rows being a convenient distance.

A selection of good free-flowering sorts for beds and borders is as follows: White Swan, Primrose Dame, Canary, Moseley Perfection (large rich yellow), Maggie Mott (mauve), Councillor Waters (magenta purple), Bridal Morn (heliotrope blue), Archie Grant (indigo blue), J. B. Riding (rose purple), Kitty Bell (lilac), Kingcup (rich yellow), Mrs. H. Pearce (pure white) and Peace (white, edged heliotrope).

Those readers who would like to make a hobby of choice exhibition Violas, either for show or for the pleasure of their family, will find their culture full of interest. Quality of the flowers rather than quantity in this case is, of course, the primary consideration. Those who have used Violas for dinner-table decoration are loud in their praises of them. Many people think them too common, but it is not always the most expensive flowers which produce the best effects. Try, to start with, a table of Maggie Mott, lightened with a few pieces of the perennial Gypsophila paniculata. With the choice exhibition sorts use pots for the cuttings, as the numbers inserted will be much less. When nicely rooted, plant them out 3 inches apart on a prepared bed in a cold frame for the winter. Give plenty of ventilation during the winter, only closing the lights entirely on frosty nights and removing them altogether on warm, sunny days. April is a good time to plant them out where they are to flower.

Twelve choice exhibition sorts are George C. Murray, Goalkeeper, Jessie Baker, Jeanie Stirling, Jenny Houston, Kate Cochrane, Lady Knox, Mrs. Chichester, Mary Burnie, Mrs. H. Pearce, William Lockwood and Rose Noble. With the choicer sorts, at this season some difficulty may be experienced in obtaining cuttings. To encourage their production give the plants at once a liberal top-dressing of rich soil, using, mixed with it, Clay's Fertilizer or guano. We have used flaky leaf-mould and Clay's Fertilizer, with very good results. Following several good soakings with water the increased vigour of the plants will soon be noticeable. Other measures to take to induce the production of cuttings is to cut off some of the oldest growths and keep all seed-pods picked off.

Raising from Seeds.—There is even more interest attached to the raising of Violas from seeds than there is in rooting cuttings, for on the one hand the colour of the flowers is already known, but with seedlings their flowering is awaited with interest. Recently, when on a visit to Messrs. Sutton's Trial Grounds at Reading, a large stretch of mixed seedling bedding Violas was noted being grown for seed, a considerable number of the flowers being equal to many named sorts. Seeds sown thinly now in a shallow box and placed in a cold frame will give good plants for next season's flowering. In addition to a packet of mixed seeds, those who wish it can purchase seeds in separate colours, these including white, yellow, primrose, black, purple and mauve. A. O.

MIGNONETTE FOR WINTER FLOWERING.

A FEW pots of well-grown Mignonette make a charming feature in the greenhouse or conservatory during the latter part of winter and in spring. If carefully grown, splendid specimens will result. I remember assisting in making the awards at a spring flower show, and, among other kinds of plants, there were pots of Mignonette. The size of the pots was restricted to 6½ inches. In some pots only one plant was grown, in others two and three plants respectively. All were very fine, but the pot with the single plant was the best. The plant had branched out wonderfully, and appeared of greater bulk than the three plants in a pot; furthermore, the flower-spikes were larger.

Sowing the Seeds.—It is not advisable to sow seeds too early, else the resultant plants will flower prematurely, however much the cultivator strives to prevent this, and they should be kept growing steadily. Drop three seeds in a 3-inch flower-pot filled with loam and leaf-soil in equal proportions. To one bushel of the combined parts add a 7-inch potful of rotted manure and a 6-inch potful of coarse sand. If procurable, add a small quantity of road scrapings. Lightly cover the seeds and then place the pots in a cold frame, but admit plenty of air, as it is necessary to prevent the resultant seedlings becoming drawn and weakly. In fine weather, as the seedlings gain strength, remove the glass lights altogether; also draw out the two weakest plants, leaving only one plant in each pot. Before the plant gets pot-bound, repot in a 5-inch pot, using a similar compost. When the plants are about four inches high, pinch off the tops, and thus cause side shoots to grow. Sometimes five or six strong shoots may be secured, and these will be sufficient to form a nice specimen. In due course one more repotting may take place. From October to the flowering stage place the plants on a shelf in a greenhouse, and always water carefully. B.

2.—THE CUTTING ON THE LEFT IS PREPARED FOR INSERTION. ON THE RIGHT IS SEEN A GROWTH WITH A FEW ROOTS ADHERING. SUCH GROWTHS ARE MOST USEFUL FOR PROPAGATION.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Early - Flowering Chrysanthemums. — The earliest varieties are already making a good show of bloom, and to prolong the flowering period they must be kept fairly moist at the root. Thrip has been somewhat troublesome this season, and wherever this pest is present, the plants should be sprayed with an insecticide, afterwards giving them a good wash over with the syringe or hose. The plants that are being grown for cut flowers will, naturally, be cut over as the blooms open, but those for garden decoration should have the stale blooms removed as often as necessary.

The Herbaceous Border.—There is always a certain amount of work on the herbaceous border, and just now, when many of the summer-flowering plants are going over, there is much to do, cutting down and making tidy so that the dead and dying flowers do not in any way detract from the beauty of those that are opening. At the time of writing, herbaceous plants are suffering severely for want of rain, and should we not get it in quantity during the next week or two, it will mean the weakening, if not the loss, of many of the more tender subjects, unless, of course, they have been systematically watered.

Plants Under Glass.

Mignonette.—The present is a very suitable time for making a sowing of Mignonette for spring blooming. I prefer to sow a few seeds in 3-inch pots, thinning the seedlings to four or five when large enough to handle, and potting on into 4½-inch pots or 6-inch pots at the turn of the year, or as soon as fit. For the production of large spikes of bloom, firm potting is very essential, and where sowing direct into the flowering pots is practised, the soil should be well rammed; but in this latter case the watering must be carefully done, or the larger body of soil soon becomes sour; hence the advice as to sowing in 3-inch pots.

Schizanthuses.—These may also be sown in the manner advised for Mignonette, thinning to one plant in a pot when large enough; or they may be sown in pans, pricking off before the seedlings become too large.

Clarkias call for similar treatment; but in this case they should be sown in pans or boxes and pricked off. Firefly, Salmon Queen, Brilliant Princess and White Prince are all desirable varieties. To be really successful with these annuals they must be carefully looked after during the dull days of late autumn and winter, careful watering and plenty of light and air being absolutely essential, so that a good, airy house or well-ventilated frame should be devoted to them.

Lachenalias.—A batch of this pretty spring-flowering bulbous plant should be potted up at once into 4½-inch pots, this being the most useful sized pot for the subject. A fairly rich and open compost suits them well. After potting and watering in, the pots should be stood in a frame where a mat can be put over them to prevent them drying out too much till growth commences. The variety Nelsonii is perhaps the best, while L. pendula, tricolor and quadricolor are distinct and pretty.

Begonia Gloire de Lorraine.—If any of the plants are not in pots sufficiently large for their requirements, no time should be lost in getting them potted on, and at this time a large shift should not be necessary. Where good bushy specimens are required, the plants should be staked out as soon as the side growths are sufficiently long to warrant it, and if these are staked out fairly flat they will soon make breaks and so fill up the centre of the plants. Plants well rooted in the flowering pots may be fairly liberally treated as to water and liquid manure.

Begonias Gloire de Sceaux, haageana, &c., that are being grown on for winter and spring decoration, should be potted on as soon as fit into 6-inch pots or 8½-inch pots, giving them a good rich compost, so that with plenty of room they may develop their rich foliage to the fullest extent. Occasional sprayings overhead are necessary to keep the foliage clean, but, as the days shorten, this may be dropped in favour of frequent sprayings between the pots, or it may be found that the foliage will get rather soft and the edges become marked. To keep down mite or thrip, a light fumigation should be given now and again.

The Kitchen Garden.

Cauliflower Autumn Giant should now be turning in, and it may be found necessary to keep the plants frequently watered if good heads are required. If pulled up when quite tight, they will keep for some days if stored in a cool shed or cellar and the light kept from them.

Autumn Broccoli also may be subjected to the same treatment. In many places the growth made during the summer has been somewhat irregular; but now that the sun is losing its strength somewhat, one or two good waterings might materially help them.

Onions. — Autumn-sown and spring-planted Onions from boxes are now ripening fast. This being the case, they may be eased from the ground a little, and when it is found that the roots have no further hold of the soil, they should be taken up and placed on hurdles or mats to facilitate the drying process. This latter should be carefully done, as these large Onions, if well ripened and dried, will keep almost as long as the smaller ones.

Spinach.—A good sowing of Spinach should be made during the next few days to stand the winter, and if the soil is heavy, it is a good plan to throw out a narrow trench on each side of a bed about six feet wide, this raising the soil a few inches and at the same time keeping it well drained.

Hardy Fruits.

Plums.—Many varieties are now ripening fast, and every precaution must be taken against wasps and birds. For bottling or preserving purposes the fruits should not be allowed to remain till they are dead ripe, or the skin is likely to be damaged in the gathering. This, the cooks inform us, is not at all desirable, and those of us who are in charge of gardens know full well we have to study the *chef de cuisine*.

Loganberries that have finished fruiting should have all the old wood taken out, tying in only those growths that are required for next season's fruiting. If these are not as strong as one would wish, a good soaking with liquid manure will probably have the desired effect, as the plants make a good deal of growth during the early autumn.

Thomas Stevenson.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Autumn Propagation.—This work must now be prosecuted with vigour. Calceolarias need not be propagated for another month yet, and there is no hurry for bedding Violas. Among plants which should now be propagated are Ageratums, Alyssums, Petunias, Fuchsias, Phloxes, Pentstemons, Antirrhinums, Anthemis Kelwayi, &c. A compost of loam, leaf-mould and sharp sand in equal parts suits the purpose admirably. Shallow boxes provided with openings for drainage will be found the most suitable kind of receptacle for the cuttings. Pass the compost through a half-inch wire sieve and place the rough portion in the bottom of the boxes. Press the soil very firm, and it is an advantage to finish off with a little clean sand. Insert the cuttings somewhat thickly, but according to the vigour of the subjects, place in a cold frame, and give a good watering through a fine rose. Keep the frame close and shaded from bright sunshine till roots are emitted.

Miscellaneous Bulbs.—Scillas should find a place in every garden. S. sibirica, S. bifolia and S. verna are all worthy of inclusion. Chionodoxas, too, following hard on the Snowdrops, should be freely grown. C. gigantea, C. Luciliæ (Glory of the Snow) and C. sardensis are each little gems. Fritillarias are also highly decorative spring flowers. The varieties of F. imperialis (Crown Imperial) spring up as if by magic, followed by various other species, among which F. Meleagris (Snake's-head Fritillary) is specially worthy of commendation. Then there are the Snowflakes and the Dog's-tooth Violets (Erythronium Dens-canis). Among not too hardy but highly desirable things are the Camassias, Anomatheca cruenta, Schizostylis coccinea and the lovely Ferrarias, a collection of which has been charming us here from day to day for weeks.

The Rose Garden.

Garden Roses.—I am using this phrase in its widest sense, including Provence, Damask, Moss, Japanese, Scotch Briar and Sweet Briar. These old-fashioned Roses deserve more attention than they get nowadays, and I hope some readers will remember them when making up their Rose orders. A portion of the garden might be devoted to them, or they will be grateful for odd corners. Some of the stronger-growing species make a fine background for a herbaceous border. Most of them can be increased by suckers, and all by layers or cuttings.

Budded Stocks.—These must be looked over, and if the ligatures are too tight they should be slackened.

The Rock Garden.

Cutting Back.—No part of a garden will, if left alone, give quicker evidence that the law of "the survival of the fittest" (*e.g.*, strongest and coarsest) is still operating than the rockwork; hence the necessity for constant vigilance. Cerastiums, Antennarias, Thymes, Arabises, Aubrietias, Saxifrages and a host of other things require cutting back from time to time, and the present is an opportune period for a thorough overhauling, so that the more compact subjects may get the full advantage of the declining sunlight and have a free circulation of air round them during the winter months, thus saving many of them from damping off.

Plants Under Glass.

Crinums.—As these go out of flower, water should be gradually withheld till they are thoroughly dried off.

Pancratiums.—After blooming, these should have less water, but they do not require an entire rest like the Crinums.

Gloxinias.—Plants that flowered during the summer will now have gone to rest. If not required, they should be thrown away; but if to be retained for another season, they may be stored away for the winter where the temperature does not fall below 50° to 55°.

Pelargoniums.—As soon as the plants have started into growth they should be repotted, stood in a cool pit or frame and kept rather close for a week or ten days. Use pots a size less than those which the plants occupy at present. Trim the roots with a sharp knife. Do not use a very rich soil; pot firmly.

Fruits Under Glass.

Early Vines.—These must now be induced to go naturally to rest by maintaining dry conditions, with a free circulation of air. Should cold, wet weather occur, however, a little fire-heat should still be applied to maintain a buoyant atmosphere.

Peaches.—As these begin to shed their leaves naturally, the process of defoliation should be accelerated by going over the trees lightly with a new Birch broom, brushing from the stem towards the extremities of the tree.

Wasps.—Traps must be set for these wherever there is ripe fruit. Bottles partially filled with sour beer and sugar and hung on the trellises prove very efficacious.

The Vegetable Garden.

Late Cauliflowers.—Cauliflowers enjoy moist conditions, and if dry weather occurs it may be necessary to water the late crops, especially on light soils. Sutton's Mammoth, when liberally grown, gives grand results in autumn.

Late Peas.—Peas have done remarkably well this season to date, but it is during the next six weeks that the difference between liberal and stingy treatment of the Pea becomes apparent, and that both as regards yield and quality. Where the crop has received but little attention, the loss can still be retrieved to some extent by applications of liquid manure.

Harvesting Herbs.—Mint, Sage, Thyme, Marjoram and other herbs which are likely to be asked for during the winter should on a dry day be cut, bunched up and hung in an open shed to dry.

Seed Potatoes.—As these are lifted they should be spread out for a week or so to "green" prior to being stored away in trays. A pit is possibly the best place to store Potatoes for the table, but it is the worst wherein to store them for seed.

Charles Comfort.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

ROSE GARDEN.

ROSE RAYON D'OR FOR BEDDING (*E. B.*).—Our experience of this lovely Rose is that it makes a splendid bedder, providing good, healthy, British-grown plants are obtained. Its blooms are carried erect, and its colour is well maintained. The very oldest blooms pale, but not before they are ready for removal, and there are always numerous buds to take their place. The glistening foliage, so wonderfully free from pests of all kinds, is a specially good trait of these perpetiana Roses. You would find the variety named above, also Arthur R. Goodwin, Cissie Easlea and Louise Catherine Breslau real gems. Roses that would make a delightful bed of themselves, all having a similar growth and the same striking foliage. Yes; Silver Moon is a wichuraiana climber, but it could be trained horizontally to form a low hedge. We should suggest, however, for this purpose such a Rose as Simplicity. Silver Moon is quite free from mildew, as far as our experience goes.

ROSE EARL OF WARWICK BLIGHTED (*M. G. D.*).—This Rose has a most peculiar habit of producing wood such as you send. We do not believe it is caused by fungoid disease, but is simply a peculiarity of this variety. In our opinion the excessive use of artificial manures has much to do with it, also in the production of black spot and other diseases. We have noticed it very frequently upon beds that have been heavily manured. We have much faith in the formaldehyde remedy, if followed strictly upon the lines advocated by Dr. Waddell in the National Rose Society's Annual. We would, however, advise you to replant the bushes, taking care to spray the roots and wood when the work is done in November. See that the soil is of a good loamy nature, and add some lime if necessary. It may be your Rose-beds would benefit greatly by liming in October. If they have been heavily manured for some years, this is all the more necessary. A writer some time ago gave as a remedy for black spot an application of salt every two weeks, 4oz. of salt to three gallons of water. You might try this on a few plants, spraying them thoroughly. We think the scorched appearance of the foliage may be caused by the formaldehyde. All these sprayings are best done in the evening.

THE GREENHOUSE.

BEGONIAS GOING WRONG (*W. B.*).—We find no fungus or insect on the Begonias to which the damage done can be attributed. We are inclined to think your compost may be too rich and does not contain sufficient sharp sand to make drainage efficient. Special care when watering must be exercised, and no doubt the plants will to some extent recover.

FUCHSIA LEAVES CURLED (*R. S. M.*).—There is no doubt that the unsatisfactory condition of your Fuchsias is due to an excess of stimulants, for you have been far too liberal in this respect. An application of Clay's Fertilizer once a fortnight would be quite sufficient unless it is given very weak indeed. It is quite probable that the mulching of manure would be ample without using Clay's Fertilizer at all. We certainly advise you to discontinue the excessive use of stimulants; but even then it is possible that the plants will take some time to recover, as very likely the roots are in a poor way. The condition of the leaves on the pot plant grown inside points to an error in cultivation of some kind, but what that is we cannot say. You did quite right in binding up the wounded portion of the stem with clay.

SPIRÆAS AFTER FLOWERING (*Hants*).—After the Spiræas had finished flowering, the old spikes should have been cut off and every encouragement given to the plants to make good growth. An occasional dose of liquid manure would then have been of great service, as in this way the plant is enabled to build up its strength and form flower-buds for another season. By drying off prematurely the constitution of the plant is greatly weakened, and, however treated now, you are not likely to have many flowers next year. However, you may even now feed the plants occasionally, and encourage growth till they naturally go to rest in the autumn. The best time to pot clumps of Spiræa for winter flowering is early in November, but in a cool greenhouse you cannot expect to have them in bloom by Christmas.

FRUIT GARDEN.

MANURING GOOSEBERRY BUSHES (*Greystoke*).—Yes; Gooseberry bushes are greatly improved by a liberal application of rotten manure to the soil about their roots in autumn. The crop is heavier and the fruit finer as a result. You are doing quite right in planting your Currant trees in the open (never mind your neighbour in this case). Dig a liberal dressing of rotten manure into the soil before planting. Your Black Currant trees are suffering from what is commonly called the big bud; the swelling is caused by a small mite or insect. The best cure for it is to pick off the diseased buds and burn them and the mites together. Your trees will go on bearing well, in spite of the disease, for many years if they are well looked after.

KITCHEN GARDEN.

HORSE-RADISH FOR SAUCE (*W. H. C.*).—The early autumn, when it is seen that the leaves of the Horse-radish are maturing, would be the best time to lift and store the roots for your purpose.

CARROT GRUB (*Gardener*).—The simplest and most certain way is by burning the soil. In the autumn, in dry weather, make a strong wood fire on the piece of ground you wish to grow Carrots on next year. After it is well lighted, cover it over a foot thick with soil. Let this soil become hot enough to kill all things which have life in them. You will soon find out the necessary heat; then take off the soil, make up the fire anew, and cover with soil as before. Burn all the soil wanted for the Carrot crops a foot deep, and you will be rid of all grubs and all seeds of weeds as well.

MISCELLANEOUS.

RENOVATING A LAWN (*Hal*).—You can do a little good to your tennis lawn by dressing it with good loam and bonemeal in October; but it is doubtful whether the grass will become really good for a number of years; and although it means a considerable amount of work, it would be very much better and cheaper in the end to remove some of the soil and make up with better material. It is always a mistake to remove a considerable depth of surface soil and sow seeds or plant upon ground which has been some distance below the surface.

NAMES OF PLANTS. — *G. F., Somerset.* — Araujia sericofera.——*Scud.*—Erigeron canadensis.——*C. R., Grayshott.*—Sedum sexangulare variety.——*Rhagatt.*—Digitalis lutea and Thuja plicata.——*T. C. A.*—Androsace lanuginosa.——*Burton.*—Rose Lamarque.——*Enquirer.*—The coppery Rose is Jean Ducher, and the paler one G. Nabonnand.

SOCIETIES.

SHREWSBURY SHOW.

THE very first thing that every observant visitor must have said to himself "or otherwise" (to copy the phraseology of a quaint notice affixed in the firework and acrobatic part of the grounds) was: "This thirty-ninth show is larger, better and more varied than ever—a regular 'Chelsea' in Shropshire—even to the rock gardens." Then, after a somewhat cursory "run round" (to use a most inappropriate expression for the ordinary being who entered with the crowd of subscribers at 11.30), he would be aware of a quite exceptional display of Roses and Sweet Peas; of magnificent specimen flowering plants of titanic proportions; of mimicking Begonias which nearly out-rosed the Rose and quite out-camelliaed the Camellia; of Carnations and Gladioli galore; of the eternal "touch the button and I will do the rest" sort of impossible airy and light decorated tables or table decorations; and of that visitor-flattering and irradicable propensity of Shrewsbury which invariably thinks that every pair of eyes belongs to a mind of more than encyclopædic knowledge of genera, species and varieties, and cannot understand that there are just a few visitors like Sir Harry Veitch and Mr. E. A. Bowles and Mr. Farrer who do *not* know quite everything when they see it; and last, but not least—to end this little digression—that the society has been fortunate in securing in the person of Mr. W. G. Brazier a secretary who will prove himself to be a worthy follower of those veteran chiefs, Messrs. Admitt and Naunton, who have now retired after thirty-eight years' service, and who were in the course of the opening day so signally honoured by Horticulture. In the competitive classes on the floral side of the show we noticed that the usual prize-winners were still to the fore, and that the different classes occupied much the same positions; so it will be convenient to deal with them as far as possible as they were grouped in the various tents; but in place of our more usual custom of dealing with individual exhibits, we propose to concentrate on what we consider their more prominent features.

LARGE TENT.

Here there were the usual displays of groups of stove and greenhouse flowering and foliage plants, in which Crotons, Orchids, Abutilons, Palms and Bamboos played a leading part. There was a wealth of costly and varied material introduced in the different exhibits, but on the whole there was little originality or breaking away from the stereotyped ideas of former years. In the open class the names of Messrs. J. Cypher and Sons, Sir G. H. Kenrick and Mr. W. R. Manning of Dudley were to the fore, while in that confined to the county of Salop only, Mr. Bernard Howson of Market Drayton, Mr. A. M. Barber of Wellington and Mrs. F. Burd of Shrewsbury occupied the chief positions. We were much struck with Mr. Barber's arrangement of simple green and white, with just a splash of orange introduced here and there to give piquancy to the whole. Although it was only awarded a second prize, we thought it compared very favourably with the more conventional bizarre group of the winner.

Class 4, for a group of hardy plants and aquatics, produced one of the most striking features of the whole show in the first-prize collection of Messrs. Gunn and Sons of Olton. The design was excellent. It consisted of a small central pool of water, with Water Lilies flanked with Ferns, and a single group of blush Spiræa at one end; then, in a semi-circle round it, suggesting a garden path, a wide edging of Grass to a slightly-raised border of perennials, in which Hollyhocks, Campanula pyramidalis, Hyacinthus candicans and Lythrum Salicaria Rose Queen were features, but which contained many other pleasing flowers, among which might be mentioned Gladiolus Primrose Queen.

The classes for large and small specimens are peculiarly Shrewsbury's own, and we look on Messrs. Cypher's grand plants as friends whom we would sadly miss if they did not occupy their accustomed places at the show. Their examples of Statice profusa, Erica aitoniana, Erica ewersiana, Ixora Duffii and Statice Gilbertii were veritable triumphs of horticultural skill. In the 10-inch pot class, Allamanda Williamsii and Ixora Regina were two charming young plants that doubtless in time will be promoted to the larger class.

In this large tent Messrs. Mair and Sons provided a rich treat to Gladiolus lovers in their first-prize collection of twenty-four varieties—Sphinx (amaranth), Sorcier (lurid orange red), Mars (red), Snow Wreath (pure white) and Alexander (pink) stood up bravely as the firing-line of a fine, well-equipped squad. Here, too, were what we advisedly called the mimicking Begonias of Messrs. Blackmore and Langdon of Bath and Messrs. Ware of Feltham, for anything more like Roses and Camellias it is hard to imagine. Undoubtedly the tuberous varieties have reached a high standard of perfection; such sorts as Princess Victoria Louise (pink), Mrs. R. Caulfield (shell pink), Lady Dorrington (white), Rose Superbe (rose), Marjorie Donald (waved warm flesh), Mrs. W. L. Ainslie (waved yellow) and Mrs. Robert Morton (lemon and bronze yellow) were some that caught our eye in the Bath firm's exhibit. Begonia martiana grandiflora reminded us of an old-fashioned Balsam in its general appearance, and would be a welcome addition to the conservatory; it is very effective as a bedding plant. Messrs. Ware had Prince John, Lord Hopetoun, Lady Cromer and King George V.—all good things that we can recommend.

ROSE TENT.

The whole of the staging in the centre of one of the tents was given up to Roses, which, in their first freshness, were exceedingly lovely. Great pillars and arches of the best ramblers, with solid masses of one variety, were the groundwork of almost all the competitive groups, while, as filling up, there were smaller bunches, baskets or vases of a bewildering number of appealing beauties.

Messrs. Gunn and Sons won the £10 prize and silver Champion Bowl with a well-arranged and most attractive collection, in which were good examples of Hugh Dickson, George C. Wand, The Lyon Rose and Gottfried Keller, the beautiful semi-double Briar, pale yellow centre, with the outer half of the petals a pale warm pink.

Messrs. Hugh Dickson, Limited, staged some glorious blooms. Among those that appealed to us were William Cooper (real old rose), Charming (warm pink), Ulster Glow (a large pale pink single), King George V. (deep dark rose) and Muriel Dickson (light shade of cerise). The variety Beauté de Lyon, so much beloved by our French friends, and awarded by them such signal honours when they saw it growing in their trial grounds at Bagatelle, was finely shown by Messrs. W. and J. Brown, and many were the expressions of wonder which we heard at its wonderful shade of coppery orange. The third prize in the champion class went to Mr. J. Mattock of New Headington, Oxford, who had Duchess of Wellington (yellow), Rayon d'Or and Irish Elegance well represented in large clumps of fine blooms.

SWEET PEAS.

When Mr. Thomas Stevenson says that Mr. Thomas Jones of Bryn, Pen-y-lan, Ruabon, never staged finer blooms than those which were to be seen in No. 4 Tent, readers will know that this exhibit of Sweet Peas was something out of the common. Had his Mark's Tey been a day older, the exhibit would have been well-nigh perfection. Wales may be worsted at football, but not at Sweet Pea growing as long as the redoubtable "Tommy" enters the lists. We congratulate him on what was one of the best things of the show. Following in his wake were Mr. J. Haycocks of Wrexham and Mr. G. H. Garnett Orme of Skipton.

The smaller classes for twelves and sixes were well filled, the first prize winners being Mr. Robinson of Kington and Mr. J. Roberts of Gresford in their respective classes.

CARNATIONS.

Between the competitive and non-competitive groups the Carnations made a brave display. For a collection arranged in a space 15 feet by 4 feet Mr. C. Wall of Bath was placed first. We greatly admired his rosy pink Lady Fuller and white picoteed Princess, not only on account of their colour and form, but because they have the true Old Clove scent. Both are good winter-blooming varieties, and not too large. We can highly recommend them. Messrs. Young and Co. of Cheltenham, Mr. C. H. Herbert of Birmingham and Messrs. A. R. Brown and Co. of King's Norton were also prize-winners in the Carnation classes.

ROCKERIES.

These were a novelty for Shrewsbury. In spite of the handsome prizes which were offered (£50, £30 and £20) there were but three competitors. One of these had placed a certain quantity of stone among the flowers. Lilium auratum is certainly not the most appropriate plant to introduce into such compositions, and we think the judge was lenient to award the exhibit any prize at all. Messrs. T. R. Hayes and Co. of Keswick were placed first, and Mr. J. Wood of Boston Spa second. The latter had a much weaker exhibit than we have been in the habit of associating with his name. Bare patches of oyster-shell-looking stones, a too symmetrical-shaped pool, and a distinct sparseness of plants in certain parts where, we think, they ought to have been, were some of its obvious defects. The prize-winners had a more pleasing and better furnished exhibit.

VARIOUS.

Table decorations, bouquets and vases were present in considerable numbers, but there was nothing of special note in any of them. There were a few exhibits of summer-flowering Chrysanthemums. That of Mr. G. Bowness contained well-grown flowers, but was badly staged. We might mention Mrs. W. Sydenham (rich brown-maroon), Mrs. J. Field (golden brown) and Cynthia (pink) as good.

The bunches of hardy and greenhouse cut flowers were much as usual, but sadly wanted naming in many instances. Dahlias were not very numerous, but there were some beautiful Cactus varieties in Messrs. Bottamley and Burton's collection, and some excellent Pæony-flowered ones were in that of Messrs. Keynes, Williams and Co.

FRUIT.

There is no horticultural exhibition in the kingdom at which exotic fruit grown under glass is so largely or so well grown as at Shrewsbury, or at which it is more attractively displayed for the enjoyment and appreciation of the vast number who year after year visit this great show. The quality of these fruits, and especially Grapes, is more or less dependent on the conditions of weather the season presents. The conditions this year, to a marked extent, have left their mark on Muscats and white Grapes generally, in so far that good colour and finish are lacking. This was made patent at this show, and it may also be said that quality throughout the fruit classes, with few exceptions, compared unfavourably with the best seen at Shrewsbury in some previous years.

Class 53, champion decorated fruit tables: The establishment of this class, where fruit and flowers are combined in the arrangement of the tables, was a happy thought on the part of the committee of this show, and has proved to be most popular. There is not a more beautiful or attractive class in the show than this. The conditions which govern it are as follows: The tables are 10 feet by 4 feet 3 inches, and covered by a white cloth. Thirty dishes of fruit are demanded in not less than nine distinct kinds. Not more than fourteen bunches of Grapes are allowed, and in not fewer than four varieties (including black and white), and not more than four varieties of any other kind of fruit, or more than two dishes of any one variety. On this occasion there were three exhibits in competition, the first prize (£25) going to the Duke of Westminster (gardener, Mr. Barnes); second (£20), Lady Henry Somerset (gardener, Mr. Mullins); third (£17 10s.), the Earl of Harrington (gardener, Mr. Goodacre).

The next fruit class in importance. Class 54, was that for a collection of Grapes, twelve bunches in four or more distinct varieties, but not more than four bunches of any one variety. Point judging was insisted on in both of these collections, and cards displayed showed the points received by each dish exhibited. As previously mentioned, there was nothing remarkable in the high quality of the Grapes to call for special notice, but evidently it was quality and high finish rather than size which weighed with the judges in deciding the awards. There were eight competitors in this class, collectively a grand exhibition of Grapes. The first prize (£20) went to the Duke of Newcastle (gardener, Mr. Barker); second (£16), Lord Rowallan (gardener, Mr. Dixon); third (£9), the Earl of Harrington (gardener, Mr. Goodacre); fourth (£6), Lady Henry Somerset (gardener, Mr. Mullins).

Class 55, collection of twelve dishes of fruit, twelve distinct varieties, not more than two varieties of a kind, Pine-apples excluded: First (£10), the Duke of Newcastle; second (£6), E. Bewley, Esq., Rathgar, Dublin (gardener, Mr. McIntosh).

Class 56, collection of nine dishes of fruit, nine distinct varieties, not fewer than seven kinds and not more than two varieties of a kind, Pine-apples excluded (open to the county of Salop only): First (£5), Captain Heywood-Lonsdale; second (£4), Colonel Mainwaring Jacson; third (£3), Mr. A. Heber Percy; fourth (£2), Major-General Sir Francis Lloyd.

Class 57, four bunches of Grapes, two bunches of black and two bunches of white: First (£6), Captain Heywood-Lonsdale; second (£4), Colonel H. C. Legh; third (£3), E. Bewley, Esq., Dublin.

Class 58, two bunches of Black Hamburgh Grapes: First, the Earl of Harrington; second, Lord Rowallan; third, Lady Henry Somerset.

Class 59, single bunch of Black Hamburgh Grapes: First, Lord Rowallan; second, H. St. Maur, Esq.; third, the Duke of Newcastle

Class 60, two bunches of black Grapes, Muscat variety: First, the Earl of Harrington.

Class 61, two bunches of Madresfield Court Grapes: First, Colonel H. C. Legh; second, the Earl of Harrington; third, Mr. J. Brinton, Stourport.

Class 62, two bunches of Alicante Grapes: First, Lady Henry Somerset; second, Lord Joicey.

Class 63, any other black Grape: First, Lord Rowallan, with Gros Maroc; second, Lady Henry Somerset, with the same variety.

Class 64, two bunches of white Muscats: First, Lord Seaforth, Braham Castle; second, the Duke of Newcastle; third, Hugh Andrews, Esq., Winchcombe.

Class 65, two bunches of white Grapes, any other variety: First, the Duke of Newcastle; second, Mrs. F. Alderson; third, Sir Howell Davies, M.P., Stoke Bishop.

Class 66, two bunches of black Hamburgh Grapes (open to the county of Salop only): First, Lady Mary Herbert, Market Drayton; second, Captain Heywood-Lonsdale; third, Mrs. F. Alderson.

Class 67, Madresfield Court Grape (county of Salop only): First, Captain Heywood-Lonsdale; second, Colonel Mainwaring Jacson.

Class 68, black Grape, any other variety (Salop only): First, Colonel Mainwaring Jacson; second, Mrs. F. Alderson.

Class 69, white Muscats (Salop only): First, Captain Heywood-Lonsdale; second, Major R. A. Nowill.

Class 70 (Salop only): First, Mrs. F. Alderson; second, Captain Heywood-Lonsdale; third, Colonel M. Jacson.

SINGLE DISHES OF FRUIT.

Class 73, Peaches, a dish of eight: Here there was a large entry, but no exhibit calling for special remark except the first-prize dish from the Duke of Westminster, the variety being Bellegarde. This was exceptionally fine. Second, Lady Henry Somerset.

Class 74, Nectarines, a dish of eight: First, Egerton Leigh, Esq.; second, the Duke of Newcastle; third, the Earl of Harrington.

Class 75, Apricots: First, A. S. Hughes, Esq.; second, R. A. Nowill, Esq.; third, the Earl of Harrington.

Class 76, green-fleshed Melon: First, Lady Henry Somerset; second, Miss Baird; third, Egerton Leigh, Esq.

Class 77, scarlet-fleshed Melon: First, Colonel H. C. Legh; second, Colonel Mainwaring Jacson; third, Miss Baird.

Class 78, Melon, any other variety (Salop only): First, R. L. Kenyon Pradoe, Esq.

VEGETABLES.

Taking into consideration the great drought which the country generally has passed through this summer, vegetables made a brave and, indeed, in many instances a wonderfully fine show. Competition was unusually keen in many of the classes, point judging in some classes being demanded. This is a mistake, we think. It should be left optional for the judges to resort to this when the competition is extra close.

Class 88 (prizes offered by Robert Sydenham, Limited, Birmingham), collection of vegetables, nine distinct kinds: First (£10), F. Barrett, Esq.; second (£5), Lord North; third (£3), E. Deakin, Esq.; fourth (£2), W. G. Robinson, Esq.; fifth (£1), J. H. Pugh, Esq.

Class 89 (prizes offered by Messrs. Sutton and Sons), collection of nine distinct kinds: First (£8 8s.), Captain Spenser Clay, M.P.; second (£6 6s.), Lord North; third (£4 4s.), Hugh Andrews, Esq.

Class 90 (prizes offered by Messrs. James Carter and Co., London), collection of six distinct varieties: First (£6), Mr. Barnett; second (£4), Mr. E. Deakin; third (£3), Mr. H. Pugh; fourth (£2), Mr. W. Robinson; fifth (30s.), Colonel Cornwallis-West.

Class 91 (prizes offered by Messrs. Webb and Sons, Stourbridge), collection of nine distinct kinds: First (£7), Mr. E. Winchester; second (£5), Mr. Hugh Andrews; third (£3), Mr. H. Watson Smith; fourth (£2), Mr. A. T. Rainbow; fifth (30s.), Messrs. Howell; sixth (£1), Mr. W. E. Hyde.

Class 92 (prizes offered by Messrs. Cibran, Manchester), collection of nine kinds of vegetables: First (£8), the Marquis of Northampton; second (£4), T. Sanderson, Esq.; third (£3), F. R. Dixon Nuttall, Esq.; fourth (£2), Crawford Logan, Esq.; fifth (£1), A. E. Humphrys Owen, Esq.

Class 93 (prizes offered by Messrs. Dickson and Robinson, Manchester), collection of nine distinct vegetables: First (£8 8s.), the Marquis of Northampton; second (£6 6s.), Mr. T. Jones, Ruabon; third (£4 4s.), F. R. Owen, Esq.; fourth (£3 3s.), Captain H. Lonsdale; fifth (30s.), Miss Longworth; sixth (£1), Captain H. Spenser Clay, M.P.

THE SOCIETY'S OPEN CLASSES.

Class 94, twelve distinct kinds: First (£7), the Hon. Vicary Gibbs, Aldenham (gardener, Mr. Beckett), a superb exhibit; second (£5), Hugh Andrews, Esq.; third (£3), T. Sanderson, Esq.; fourth (£1), W. E. Hyde, Esq.

Class 95, collection of vegetables, nine distinct kinds (Salop only): First (£3), Mr. F. Bibby; second (£2), Captain H. Lonsdale; third (£1), Mr. A. H. Heber Percy.

There were also classes for the following, the competition in nearly all being keen and the quality generally excellent: Six dishes of Potatoes, six Tomatoes, brace of Cucumbers, dish of Peas, French Beans, Runner Beans, Cauliflowers, Celery, Parsnips, Carrots, Turnips and Spring Onions.

COTTAGERS' CLASSES.

Many of these were provided and liberal prizes given. They had a tent to themselves, and were not the least interesting section of the show. The exhibits here formed an excellent object-lesson of what cottagers can do in the way of producing first-class quality vegetables from their small plots or cottage gardens.

NON-COMPETITIVE EXHIBITS.

The Shrewsbury committee are fortunate in being able to secure year after year such valuable support from the trade. This year these exhibits proved more numerous, important and beautiful than perhaps ever before. This was the opinion of the gentleman who made the awards in this section, and his estimate was endorsed by all we came in contact with who spoke on the subject. The exhibition would be shorn of much of its beauty were these grand exhibits absent.

Messrs. Sutton and Sons' collection was truly a rich and wonderful one of all the specialities of vegetables in season with which their name is associated, as well as many flowers and fruit, all magnificently grown and most artistically arranged. Large gold medal.

Messrs. J. Webb and Sons of Stourbridge.—This collection, which consisted of many flowers, fruit and vegetables, contained worthy specimens of this renowned great Worcestershire firm. The way this collection was disposed we thought was excellent and artistic. Large gold medal.

The Hon. Vicary Gibbs (gardener, Mr. Beckett).—A magnificent collection of vegetables, among one of the best Mr. Beckett has ever put up. Large gold medal.

The King's Acre Nursery Company, Hereford.—Their exhibit consisted of fruit trees in pots, mostly loaded with fruit. Apples and Pears we have seldom, if ever, seen bearing heavier crops of well-developed fruit. As well as Apples and Pears, the collection consisted of Grapes, Peaches, Nectarines, Plums Figs, and also grand examples of gathered fruits in baskets. Large gold medal.

Messrs. James Veitch and Sons, Limited, Chelsea, London.—Of their grand exhibit of superbly-grown plants (and especially their wonderful specimen Pitcher Plants), which filled a large recess in one of the principal tents, it may truly be said that seldom have lovers or growers of plants had the privilege of seeing so rich a collection as that presented. Large gold medal.

Messrs. Wallace and Co., Colchester.—This is the season of blooming of that most charming and beautiful flower the Montbretia. In this collection we were favoured with a view of the many new and beautiful varieties recently introduced, Star of the East being perhaps the most beautiful. Other cut flowers included in this collection were Delphiniums, Phloxes, Tritomas and Lilies. Small gold medal.

Messrs. Pipers, Bayswater.—This firm had a most interesting exhibit of garden border flowers, artistically arranged, for which a small gold medal was awarded.

Messrs. John Forbes, Hawick, Limited.—This firm had an attractive exhibit of their specialities in the way of Pentstemons, Carnations, Phloxes, Gaillardias and Violas. Small gold medal.

Messrs. Dicksons of Chester.—This firm set up one of the handsomest exhibits of herbaceous border flowers and Roses we have seen for a long time. The arrangement in grouping was excellent and the whole most pleasing. Gold medal.

Messrs. Dobbie and Co., Edinburgh.—This exhibit consisted chiefly of a large collection of Collarette Dahlias, Sweet Peas and Roses. These were splendidly grown, and the varieties of the choicest and best. The arrangement and setting up of the plants were excellent, the whole well deserving the large gold medal the firm received.

Messrs. Dickson, Brown and Robinson.—This firm is always strongly represented at Shrewsbury, and this year they excelled themselves in the splendid collection of fruit, vegetables and flowers they set up. Large gold medal.

Messrs. Alex. Dickson and Sons, Newtownards, showed a large collection of beautiful and choice varieties of cut Roses, the climbing sorts arranged on arches with a base of show varieties supporting them. Large gold medal.

Messrs. H. B. May and Sons, Upper Edmonton.—This firm's superbly-grown and choice collection of Ferns was much admired, and amid such masses of brilliant colour it was quite a relief to the eye to turn to these for rest. Silver-gilt medal.

Mr. Henry Eckford, Wem.—A large, well-grown collection of Sweet Peas. Small gold medal.

Messrs. Hobbies, Limited, Dereham.—Among the most attractive groups of flowers was the one from this firm. It occupied a prominent position in one of the large tents, and consisted of Collarette and other Dahlias, also many of their beautiful weeping and climbing wichuraiana Roses. Large gold medal.

The following, among others, had medals awarded to their exhibits:

Messrs. Isaac House had Phloxes and alpine plants. Small gold medal.

Mr. L. R. Russell, Richmond, had a collection of Tree Ivies. These were grand, the finest we have ever seen. Small gold medal.

Mr. H. N. Ellison, West Bromwich, had a select and beautiful collection of well-grown greenhouse Ferns. Silver medal.

Messrs. Ker and Sons, Liverpool, were awarded a silver medal for a choice, well-grown collection of Crotons.

Mr. Maurice Prichard, Christchurch, Hants, received a silver-gilt medal for a very choice and beautiful collection of hardy herbaceous flowers.

Messrs. John Peed of Norwood showed a fine collection of Caladiums. Silver-gilt medal.

Messrs. Bakers of Wolverhampton had a well designed, arranged and planted rock and water garden. This firm obtained a large gold medal.

Mr. Amos Perry, Enfield, had an imposing and beautiful exhibition of hardy flowers and Water Lilies. This was awarded a large gold medal.

Messrs. Barr and Sons, Taplow, Bucks, staged a large and excellent collection of vegetables, admirably and attractively set up. Silver-gilt medal.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Special Bulb Number.—Now that the season for planting spring-flowering bulbs will soon be with us, we propose to devote our next issue mainly to articles on the subject. These will be of more than usual interest, such well-known authorities as the Rev. J. Jacob, Mr. E. A. Bowles, Mr. H. J. Elwes and Mr. Duncan Pearson being among the contributors. The number will be considerably enlarged and fully illustrated, and in addition will contain a coloured plate of five new Narcissi. The price will be one penny, as usual.

Nepeta Mussini.—This now well-known member of the Catmint family is largely employed as an edging to several of the beds in the Old English Garden at Battersea Park. The edgings are broad and the Nepeta is admirably adapted for the purpose, as the greyish masses of leafage and the lavender blue spikes of flowers tend to give that feeling of restfulness that one may well associate with an Old English garden.

Preserving Everlasting Flowers.—Where such plants as Helichrysums, Helipterums, Gnaphaliums, Ammobiums, Statices and other Everlasting Flowers are grown, they will now need to be watched if required for drying. They should be cut before the flowers have become fully expanded, tied in bunches and hung head downwards in a dry place. Grasses and the well-known Physalis (better known, perhaps, as Winter Cherries or Bladder Herbs) may also be treated in the same way.

A Beautiful Campanula.—One of the most showy Campanulas flowering at the present time, helping to extend the beauty of the rock garden, is Campanula haylodgensis, a hybrid possibly between C. carpatica and C. caespitosa (C. pusilla), raised some years ago at Haylodge, Edinburgh. This dwarf-growing plant, from 4 inches to 5 inches high, with bells of a lovely silvery blue, should be in every rock garden. There is a double variety of it, and although quite as showy as the type, but the flowers being heavier, it does not stand up so gracefully.

The Syrian or Tree Mallows.—Commencing to flower during August, the numerous varieties of Hibiscus syriacus (Althæa Frutex) continue to produce a bright show of blooms throughout September. Although by no means difficult to grow successfully, the plants thrive best in a well-drained loam, with, during a summer such as that of 1913, a mulching of old manure in June and several thorough soakings of water at intervals. A few plants may worthily find a place in the shrubbery of a small garden, for the Hibiscus is quite a good town shrub. In cold districts they should be planted on a warm south or south-west border. The bushes, which are deciduous, vary from 4 feet or 5 feet in height to upwards of 20 feet or more. Among the numerous varieties, which comprise a fairly wide selection of colours, the following are noteworthy: Cœleste, single, rich blue; Hamabo, single pink, dark centre; pæoniflorus, double rosy red; alba, single white; bicolor hybrida, double white, maroon base to petals; limba plena, rich rosy red; and variegata, lilac flowers and variegated leaves.

National Rose Society.—The society's exhibition of autumn Roses will be held in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday and Friday, September 11 and 12. The charges for admission will be as follow: On the first day, from 1 p.m. to 4 p.m. 2s. 6d., from 4 p.m. to 6 p.m. 1s., and from 6 p.m. to 9 p.m. 3d. On the second day, throughout the day (10 a.m. to 6 p.m.) the charge will be 6d.

A Valuable Autumn-Flowering Rock Plant.—One of the most charming plants for the rock garden or for growing on old walls is Erigeron mucronatus, a native of Mexico. It is very seldom met with, and yet always admired when seen. The dainty little Daisy-like flowers, which are borne in great profusion, are of a reddish tint, turning to pink till they are almost white by the time they are open. It is easily grown, and when once established seeds itself quite freely. If seeds of it are placed as soon as ripe in crevices along an old wall, it will quickly establish itself.

Antirrhinum Trials at Wisley.—Each year trials of flowering plants are made in the Royal Horticultural Society's Gardens at Wisley, but we very much doubt if any of the numerous trials have created a more brilliant colour display than the Antirrhinums, which are now at their very best. Speaking generally, the seedlings, which are under number, are very true to colour. Varieties of dwarf habit predominate, although it is pleasant to see that the taller-growing varieties, such as we associate with old-world gardens, are not left out. Orange, yellow and pink in delightful art shades of colour are much in evidence among the newer varieties; but the result of the trials is not yet made known.

Hardy Annuals for Spring Flowering.—Often during the spring there is a gap or scarcity of flowers between the bulbous flowering plants and the summer flowers. It is at this period of the year that annuals and biennials, sown at the present time, light up the garden with welcome masses of fresh and vivid colourings. At one time it was not recognised to any great extent to sow annuals at this time of the year, and even now they are not used to the extent they deserve. There are many quite suitable—Cornflowers, Collinsias, Venus' Looking-glass, Shirley Poppies, Limnanthes, Virginian Stocks, Eschscholtzias, Larkspurs, Nemophila, Sweet Peas and many others; in fact, all hardy annuals are worth trying, as they can be purchased for quite a small outlay.

CORRESPONDENCE.

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

Rose Irish Elegance.—With reference to "A. B. Essex's" question in your issue of last week, "Is Rose Irish Elegance free-flowering?" I can assure him that it most certainly is so. I was given a plant two or three years ago, and it has done very well with me. Ever since May I have had a continuance of blooms, and my plant would quite equal his picture as to flowers. The plant just now is covered with flowers and buds. The Rose is particularly suited for button-holes and for decoration in the early opening stage, but, alas! not after.—H. G. B., *Forest Hill.*

Best Roses for Beds.—I am surprised to see "A. P." on page 408 recommending Etoile de France. I had a plant when it first came out, and I have had two blooms only that have opened fairly well. I thought it was acknowledged on all hands that it was no good for ordinary purposes. I should be delighted if "A. P." can teach me how to make its "hard-as-lead" buds open properly. Victor Hugo, I think, is hardly suitable for beds, as it is not a thoroughly good doer.—C. LEMESLE ADAMS.

A Beautiful Hardy Lily.—We think you may be interested in the enclosed photograph of Lilium Sargentiæ. It is one of the noblest of Wilson's Chinese collections, more vigorous than L. regale (or myriophyllum as it is better known in gardens), and flowering two or three weeks later. It seems to be one of the very hardiest species, and has a constitution comparable with that of L. Henryi. The flowers are milky white, shaded outside richly with deep reddish brown and touched with yellow at the centre. The spike figured was 5 feet high and carried ten perfect flowers. It is an unusually beautiful specimen. The photograph was taken on August 20.—R. WALLACE AND CO.

LILIUM SARGENTIÆ, A BEAUTIFUL NEW HARDY SPECIES FROM CHINA.

Late-blooming Single Roses.—The illustration and interesting note *re* Irish Elegance, which appeared on page 430, reminds me that we now have quite a number of single Roses that flower late in the season as well as through the early summer months. Those who say that Irish Elegance is a poor doer and bloomer have not seen this grand Rose in anything like its true form. It is almost always in flower wherever I have met with it—early, midseason, and until frost stops it here. The same firm (Messrs. A. Dickson and Sons of Newtownards) brought out a single white of exceptional merit in Irish Beauty—immense trusses of pure white with bright golden anthers. Irish Harmony (saffron yellow) and Irish Glory (silvery pink) are others of great beauty; but the two standing above all are Irish Elegance and Irish Beauty. At the time of writing (August 29) I have some fine standards of American Pillar and Delight well in flower on the eve of September, and likely to continue until the middle of that month. Muriel Jamieson, Mrs. A. Kingsmill and Mrs. W. T. Massey, three newer varieties, are also good late in the season. Three semi-doubles in Maharajah, Gottfried Keller and Simplicity are to be depended upon for an autumnal display. A. P., *Uckfield.*

Erica darleyensis.—With reference to the note signed "S. A." on page 430 of THE GARDEN for August 30 respecting the Heath commonly called Erica mediterranea hybrida or sometimes E. hybrida, I may perhaps be allowed to state that I have ventured to give it the above name in a forthcoming work on hardy trees and shrubs now in course of being printed. Apart from the objection of making a hybrid a variety of one of its parents, this Heath is really nearer to E. carnea than to E. mediterranea. Erica hybrida is a garden name that has long been used for the Cape Heath, E. Massoni, and as there is already an E. smithiana, the name *darleyensis* appears to be the most appropriate one to connect this beautiful and very valuable Heath with the firm to whom we owe its existence—Messrs. Smith of Darley Dale.—W. J. BEAN.

A Pretty Combination.—A combination of plants which is rather effective here and may interest others is a bed of Hydrangea hortensis with a margin of Funkia lanceolata. The Funkia is extremely free-flowering, and the slender spikes of lavender flowers blend well with the pink of the Hydrangeas. The effect might be even better perhaps were the Funkias planted among the Hydrangeas as well as the edging.—E. G. DAVISON, *Westwick Gardens, Norwich.*

Rambler Roses and the Coming Winter.—If you would open your columns to a discussion on the best way of saving our ramblers from being cut off by frost, the lasting praise of many people—both those who have large gardens and others who can grow but two or three of these lovely Roses—would be due to you. Early last November there was the severest frost of the winter on two consecutive nights. Result: All the wichuraiana ramblers—Dorothy Perkins, Lady Gay, Leuchtstern, Trier, Crimson Rambler, Hiawatha, Gardenia and other favourites—were killed down to the ground. I believe the same thing happened all over Scotland and the North of England, except perhaps in a few warm positions on the West Coast. Thus the space the ramblers used to cover was left bare. The growth made during this, happily, warm summer can only fill parts of the vacant places and afford but a few samples of the blooms that should have beautified them. This is not the first time the ramblers have been cut down by frost. In the winter of 1910–11 a similar calamity occurred. Since then I have protected several pot ramblers by covering them with Bracken, but these suffered last November equally with the unprotected ones. Possibly there was not enough Bracken. The most widely-accepted theory seems to be that the frosts last November were so injurious because they came before the sap had retreated to the roots. It chanced that a comparatively large plant of a rambler had to be moved at the end of October, and it was not injured by those frosts. It is suggested that the shock of removal had sent the sap back; hence the immunity to frost. But in 1910–11 the frosts were not specially early. The questions that might be discussed are such as these: Would it answer to lift all the Rambler Roses at the beginning of winter? Has this ever been tried on a large scale as a preventive of injury by frost? How could large plants growing on pergola, trellis, &c., be lifted? Would it do to simply expose their roots for a day or two? Is the common practice of lifting Broccoli intended to stand the winter really analogous? If, on the other hand, some covering would be a more effectual protection, what would be the best covering and how should it be applied? Is there any other and better remedy? Are there any of these ramblers that would stand 20° to 25° of frost?—AMATEUR.

Anemone japonica Gracieuse.—For the information of your correspondent "C. C.," page 418, issue August 23, I may mention that this desirable variety of the Japanese Anemone emanated from Nancy, it being distributed by MM. Lemoine et Fils in the spring of 1908. Another variety sent out at the same time was Galathée.—H. P.

Fabiana imbricata.—The note regarding Fabiana imbricata on page 407 is one which is quite called for, as this shrub is not nearly well enough known. As stated, "it succeeds as a bush in the warmer counties, but must be planted against a wall elsewhere." In common with quite a number of plants from Peru and Chili, it does very well along the West of Scotland, where I know of several good plants, mostly against walls. There it pulled safely through the past winter—one of the most disastrous to shrubs for many years It grows and flowers well against a wall in Edinburgh also, but the West of Scotland is evidently better suited to it than the East.—S. ARNOTT.

Lilium Brownii.—This beautiful trumpet-shaped Lily, so well illustrated in THE GARDEN for August 16, is seen to better advantage when in the open ground than it is if grown under glass for greenhouse or conservatory decoration. A very prominent feature is the way in which the exterior of the blooms and the unopened buds are tinged with chocolate. This is far more pronounced when the plants are growing outside, fully exposed to light and air, than if they are brought on under glass. For this reason, when the flowers are needed for greenhouse decoration, a good plan is to grow them outside till the blossoms are on the point of expanding, and then to take them under glass. This has its advantages in more ways than one, for in a shaded structure the flowers last longer than they do in full sunshine, while out of doors, if the weather is showery, the spotless interior of the blooms is often sullied by the coloured pollen, which does not happen with glass protection. One feature concerning Lilium Brownii is always a puzzle to me. We are told by the various authorities that it is a native of China, which it may be, for closely-allied kinds come from that region; but I have never seen Lilium Brownii as grown in gardens and nurseries for so many years among any Chinese importations, though very large numbers have come under my notice. This Lily as grown by the Dutch has not shown the least variation during almost the half a century that I have been acquainted with it. Certainly, appearances point to it being a Chinese kind, but the fact remains that it is different from any recent importations.—H. P.

Midland Daffodil Society.—As the Royal Horticultural Society have responded to so large an extent to the wants of those who advocated a National Daffodil Society, and, consequently, the foundation of such a society is likely to be postponed *sine die*, may I urge the claims of the Midland Daffodil Society to the support of *all* lovers of Daffodils and the advantages that such membership confers? First, the society (owing greatly to the energy of the late Mr. Robert Sydenham), after struggling in its early days, now holds the premier position among Daffodil societies, and its shows have done very much to encourage and popularise the love of the Daffodil, a knowledge of what the capabilities of the flower are. Consequently, I think a debt of gratitude is due from all lovers of the flower, and especially from those who are hybridisers, as its shows have been the means of more new seedlings being shown and seen than has any other society's show. Secondly, membership means (1) joining the leading club of the Daffodil world and bringing a member into touch with those who are the busiest workers among the Daffodils; and (2) the right to attend and exhibit at the shows, which are acknowledged to be the pleasantest gatherings of the kind, and where the leaders in the cult are always to be found with the latest up-to-date flowers. The subscription varies from 5s. to £2 2s., and the number of tickets to which members are entitled varies accordingly. With a larger membership and more funds at command, more could be done by the committee on the lines of the suggestions by those in favour of a National Society. I would ask all lovers of the Daffodil who are not already members to write *now* to Mr. Herbert Smith, Secretary of the Midland Daffodil Society, Tenby Street, Birmingham, intimating their willingness to join the society.—C. LEMESLE ADAMS.

The Best White Rose for Bedding.—A friend wants me to give her the name of the best white Rose for bedding. It is wanted for a bed (one of seven in a sunken Rose garden, each taking about twenty-five plants), and is to replace Frau Karl Druschki, which is being discarded, largely owing to its too vigorous growth and ungainly habit, being out of harmony with the occupants of the other six beds. The question, although apparently a simple one to answer, is really not so. Cream and flesh tints are not desired, as they are represented already, and that rules out such Roses as Pharisäer, Ethel Malcolm, La Tosca, Mrs. David McKee and Antoine Rivoire, even if the habit of the first three named is not too vigorous. Fortunately, Teas do exceptionally well in her soil, and I have suggested Molly Sharman Crawford or Mrs. Herbert Stevens; they are certainly "possibles." Mrs. H. Hawksworth and British Queen would have been considered, but their price forbids. Lady Quartus Ewart, Marjorie Edelstein and Amateur Teyssier also occured to me, but the mere mention of their names in connection with the best white Rose is sufficient to rule them out. There is White Killarney, and also Simplicity and Irish Beauty; but the last two are not desired, and White Killarney is too subject to mildew. I can think of nothing else so good as the two Teas Molly Sharman Crawford and Mrs. Herbert Stevens, but my friend seems to think there should be something better than either. The first is hardly free enough, and the second, which is preferred, does not hold its flowers erect. Can any of your numerous readers help her and me out of the difficulty, or can you, Mr. Editor, suggest something better than either? Rugosas, Chinas and Polyanthas are barred. Perhaps "Danecroft" will give us the benefit of his wide experience. A parson friend to whom I put the query suggested Sunburst! But then he was joking.—HERBERT E. MOLYNEUX.

FORTHCOMING EVENTS.

September 8.—United Horticultural Benefit and Provident Society's Meeting. National Chrysanthemum Society's Floral Committee Meeting.

September 9.—Royal Horticultural Society's Meeting and Exhibition. National Dahlia Society's Show at the Crystal Palace (two days).

September 10.—Royal Caledonian Horticultural Society's Show (two days).

September 11.—National Rose Society's Autumn Show at the Royal Horticultural Society's Hall (two days). Messrs. Dickson and Robinson's Vegetable Show at the Manchester Coal Exchange (two days). Paisley Horticultural Society's Show (two days).

NATIONAL DIPLOMA IN HORTICULTURE.

LAST year the Council of the Royal Horticultural Society approached the Board of Agriculture with the view to the founding of a Diploma of Horticulture, a proposal that the Board agreed to, and Government authority was given for the title "National" to be used. Those who are keenly interested in horticulture felt that this was a step, even though a small one, in the right direction, and awaited with interest the proposals for the examinations that should enable the Council to say who was a fit person to hold such a diploma. As stated in our last issue, these particulars have now been issued, and after carefully perusing them we do not think they will be received with open arms by the gardening community.

It seems to us that the conditions laid down will preclude most of the best gardeners of to-day from obtaining the diploma, even if they desired to do so. Under paragraph 4, *b*, candidates are to give some documentary evidence of the sufficiency of their previous general education; and in the following paragraph we are told that the certificate of the College of Preceptors, the Oxford and Cambridge local examination boards, matriculation at any British University, or any similar certificate which may from time to time be approved by the Council of the society will be accepted as evidence. Failing such documentary evidence, candidates must submit themselves to (and pass) a qualifying test established by the society in the subjects mentioned in Syllabus 1. Two paragraphs in this syllabus state that the candidate must show an acquaintance with arithmetic up to and including decimals and elementary mensuration, and have a general elementary knowledge of geography, such as the relative positions of the principal countries of the world, with some knowledge of their climates and of the causes which determine climate Knowledge of such subjects is, of course, useful in a way; but we wonder how many of our best gardeners, florists, fruit-growers and seedsmen, or members of the society's own committees, could pass such a qualifying test.

However, once it is passed, the candidate gets down to more practical topics, and has to pass a preliminary examination, the syllabus for which appears to have been well thought out. We are glad to see that it is to be mainly of a practical character, as, in our opinion, written answers to questions are no real test of a person's abilities in gardening. Having passed this preliminary examination, which is essential, the candidate is not entitled to a diploma, but must sit for a final examination, particulars of which are not given.

The entrance fees, which are payable in advance, are £1 for the preliminary examination and £3 for the final examination. These, we think, are much too high, and will prevent many for whom the examinations are professedly to be held from entering. We are fully alive to the fact that the holding of such examinations will entail considerable expense; but surely a wealthy body such as the Royal Horticultural Society, which exists for the advancement of horticulture, can arrange better terms than these for young gardeners. To get the best *practical* men to sit for the diploma it will, we feel certain, be necessary to modify the qualifying test and to reduce the examination fees.

THE FRUIT GARDEN.

SEASONABLE NOTES ON PEACHES.

DURING the month of September amateur cultivators will have many fruits ripening on open walls and in unheated houses. If there are more fruits than can be used at home, and the surplus ones are sent to market or to friends at a distance, careful gathering and packing are very essential to success. It is always best to gather the fruits for such purposes before they are quite ripe. When gathering, place two fingers and the thumb of one hand at the base of the fruit and thus remove it from the branch. Never touch the sides of the fruits. If they are pressed and are, at the time even, unripe, the flesh will be badly discoloured when ripened.

Wooden boxes, 3 inches deep, made to hold six, twelve or twenty-four fruits, are the best in which to pack Peaches. Half-inch wood is strong enough. Wood-wool or cotton-wool, unbleached, may be used, but where plenty of ordinary ground moss can be obtained, rake it up with an iron-toothed rake, dry it under a glass light, then beat out the dust with the aid of a stick and use it for packing purposes. I have packed many thousands of Peaches in it, and never had one damaged. First, put a thin layer of the moss in the bottom of the box, then place the fruits, each one wrapped in white tissue paper, on the moss with just sufficient space between them to allow of the fingers being inserted. Fill up all such space with moss, and lay enough on the top to permit the lid to be put on, gently pressing down the moss. A number of these boxes, all of similar size, of course, may be tied together securely with strong cord, and they will withstand a railway journey from one end of the country to the other. Melons, Nectarines and choice Pears may all be packed in moss, as the latter is soft, and does not contaminate the fruit with any scent.

Summer Pruning of the Trees.—No time should be lost in completing the work of summer pruning. The earlier pruning would admit more air and light to the ripening fruits, and the branches —where overcrowding occurs—from which the fruits have been removed must be cut out now.

Watering.—It is a fact that many Peach trees are sadly neglected after the fruit has been gathered. If the soil is allowed to get dust dry, the buds fall off wholesale in spring when the sap once more becomes very active. Thoroughly soak the border soil several times this autumn before it becomes too dry, and open the ventilators and doors to admit plenty of air. G. G.

THE GREENHOUSE.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

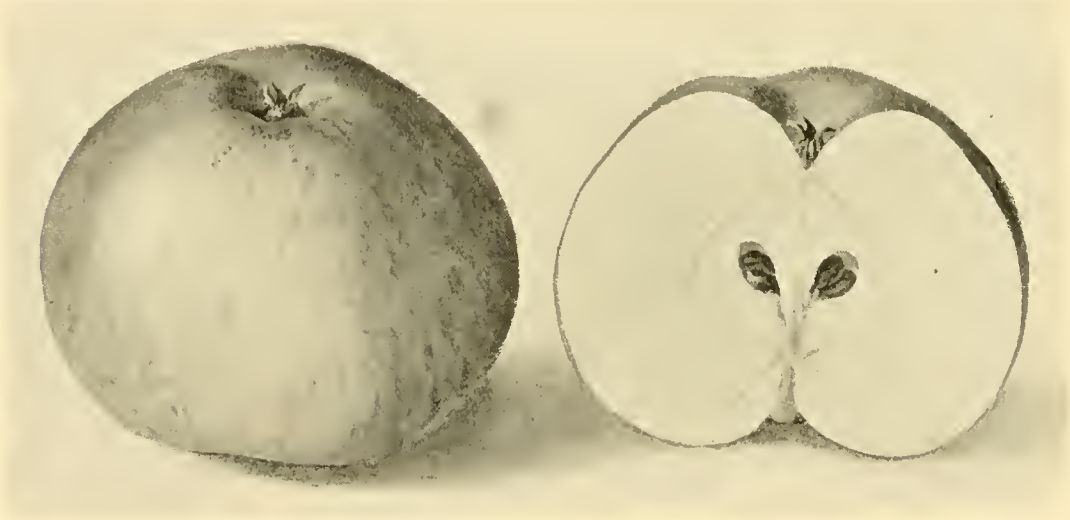
PLANTS growing in the flower garden will now be well studded with buds, and if fine blooms are preferred to sprays of small flowers, no time should be lost in carrying out the work of disbudding the plants. Some varieties are more suitable for disbudding than others, and certainly many sorts look better bearing sprays of blossoms than single blooms on stiff stems. Earwigs do a lot of harm to the blooms in some seasons. The pests find shelter among the faded, curled leaves near the base of the plant, and the wise cultivator will be careful to remove all such leaves, and with them many earwigs, too. Afterwards, if the buds and opening flowers are examined at nine o'clock each evening with the aid of a lantern, the earwigs left may be greatly lessened and very little harm to the fully-expanded blooms will occur.

Manure-Water in a diluted condition must be freely given to the plants in borders at this season. However good the soil may be, the plants will have robbed it of a great deal of nourishment, and the applications of manure-water are really essential to the full development of the blooms and the deep, healthy colour of the leaves.

Early-Flowering Varieties in Pots.—These are very useful to the amateur cultivator who possesses no glass houses in which later-flowering sorts should be accommodated. The early ones must be well fed, especially if grown in rather small pots, and neatly staked. If some plants of the same variety are placed in positions facing the north, or on the north and east sides of walls, the season of flowering of that variety will be prolonged by about ten days.

How to Retard Exhibition Blooms.—Nearly all inexperienced cultivators defer the attempt to retard the early blooms until the latter are more than half developed. At that stage it is quite possible to keep them back a week without any loss of colour or freshness of floret; but the best time to retard the forward varieties is before the colour of the flower petals can be seen. By placing the plants in open but cool positions until housing-time comes, the progress of the buds will be considerably arrested; indeed, to the extent of a fortnight. Then, if the blooms are kept cool when almost fully developed, they may be retarded nearly another week, making about eighteen days altogether. There is another advantage in retarding early varieties soon after the buds have been "taken," as the plants are kept in the open air and light reaches every part from bud to base, and this is conducive to a healthy condition of the leaves. Continue the judicious feeding of all varieties of plants in pots, especially those that are intended for exhibition in November.

Plants Trained on Walls.—I have seen old walls beautifully furnished with tall, medium and dwarf-growing varieties, neatly arranged. Some of the early November flowering varieties do very well in the shelter afforded by the walls. At the present time all main branches should be tied in and all surplus side shoots pinched out. The tops of the stems must be left to depend gracefully from the wall; then the clusters of flowers will show to great advantage. AVON.



NEW DESSERT APPLE MAIDSTONE FAVOURITE. (*Five-sixths natural size.*) (*See page* 448.)

A CHARMING LITTLE GREENHOUSE CLIMBER.

IN Manettia bicolor we have a delightful climbing plant for a small structure, as though free, it is by no means a strong grower, while the foliage is neat and the bright, tubular-shaped blossoms, in colour red and yellow, are borne throughout the greater part of the year. It is a native of South America, where several other species occur; but though some have at different times been introduced, this is the only one that can be generally obtained from nurseries, and as far as I know it is the best of them all. It is also known as M. inflata and M. rubro-lutea. Apart from its beauty as a greenhouse climber, little examples grown in pots and trained around a few sticks form a very pleasing feature in that structure. Larger specimens treated in the same way are sometimes put out of doors during the summer in the mixed beds of flowering subjects which are now so often seen. Under these conditions they flower continuously, and fully exposed to sun and air the colour of the blossoms is of the richest. Before the craze for size became so universal, a spray of this Manettia was often used for the decoration of the button-hole. It can be readily struck from cuttings in the spring, and will thrive in ordinary potting compost. H. P.

THE FLOWER GARDEN.

DUTCH CROCUSES.

THROUGH the kindness of two large Dutch firms, who each of them made me a present of a collection of their new varieties, together with a sprinkling of the best of some of the older ones, I had the excitement this last spring of having a small Crocus trial in my own garden. I must go off at a tangent here, just for two or three lines, to advocate such collection-growing as being a most interesting and instructive by-product of the gardening spirit, whenever and wherever circumstances and money allow it to be carried out. It is an exploration into an unknown land, and in a mild way gives us the same sort of expectant wonder as variety after variety unfolds its blooms to our critical eyes. There are lots of things that can be utilised for this purpose—annuals, Sweet Peas, Zonal Pelargoniums, Tulips (both early and late), Daffodils, Hyacinths, Crocuses, Montbretias, and, in fact, almost anything at which seedling raisers and selectors have been at work. One of my "joys," then, this last spring was watching this collection of Crocuses. It was my Mecca for three weeks. I saw it in sunshine and in rain. I looked at it at close quarters and at a distance. I wanted to know which were the best among the whites, the purples, the mauves and the striped. For this purpose I took no account of the dates of opening, nor if the colours matched. I went for those which in themselves appealed to me most. Here is a *réchauffé* of the notes I then made. There were numerous whites, including Kathleen Parlow, which the floral committee of the Royal Horticultural Society somewhat unaccountably gave an award of merit to *in the middle of last February*, when it must have been grown under glass. It is a magnificent variety, but, "in my foolish opinion," not to be compared to White Lady, whose brilliant anthers out-saffroned any that I have ever seen, both in colour and in size. The individual flowers were large, of exquisite shape, of good substance, and freely produced. A real lady in every way. All these large "blowers" are naturally fair-weather sorts. As, however, during part of the trial time we had wet and stormy weather, I found myself very frequently "coming back to" May, a rather dwarf variety with small, ideally-formed, cup-shaped flowers. It has been a great favourite of mine for some time, and if there was not such a rage for size *as size*, it would probably be *the* white of commerce.

Among the purples the choice was very large. I find I put the well-known purpurea grandiflora equal first with Cæsar. This last is a much redder purple than the old variety. Both are very fine and large flowers, and, except for the difference in the shade of colour, it is almost "six of one and half-a-dozen of the other."

Two other purples that I have down are Hero, a late variety with rich, deep purple, shiny-looking flowers, and Black Knight, the darkest of all in the trials, and, I should imagine, one of the darkest of all Crocuses. It has a fine gloss on the petals, like shirt fronts and collars got up with a smoothing-iron.

The mauves are a small class. The best was Dorothea, a very pleasing shade of lavender, quite distinct from all the others in my collection. It is a long, not particularly large flower, and the corm is small. I have always found it to be one of the best Crocuses to grow in pots or bowls. For this purpose I can strongly recommend it, also May. Second to Dorothea I placed Beauty or Margot—for both names mean the same variety. This is a large Colchicum-looking bloom, with the exterior of the petals a different tone from their interior; the list says, outside pale lilac, inside blue. I described it as lavender and heliotrope. Anyhow, it is a grand plant.

The last division is the "striped." The choice was considerable. In the end I decided to pick the best pale, the best medium, and the best dark. Adeline Patti was the one I selected for the first, although I find the list describes it as a white. Edina was my "medium"; it is a huge flower with mauve stripes on a white ground, which are so arranged that the margins of the petals are left without any colouring, giving them a very distinct white edge. Pallas is another very fine large variety, with the three exterior segments almost white and with remarkably showy orange anthers. As the best example of the third I placed Fantasy. It was practically "Hobson's choice." I cannot say I particularly cared for the combination. My notes say: Light and dark purple stripes, edges white, inside of petals pale purple. It was very distinct, undoubtedly, but somehow it was the least pleasing of all my selections.

To sum up, my Crocus trials gave me an immense amount of pleasure and mild excitement at a time when I had nothing else in flower outside.

The different kinds were arranged in solid little blocks of four rows, each with six corms in a row. Each block was about nine inches from its neighbour, and the whole was arranged in two rows on a long bed in an open place in the garden.

JOSEPH JACOB.

THE NEW SCABIOSA CAUCASICA MAGNIFICA. COLOUR, LAVENDER BLUE. (*See page* 448.)

THE CAMPANULAS OR BELLFLOWERS.

(*Continued from page* 434.)

C. alpina.—Rather a difficult and short-lived species with some, this is a handsome plant with a spike six inches high, bearing in July large, blue, fringed bells on long footstalks. It makes a rosette of shining leaves. Division is almost impracticable. It is a limestone plant for a sunny place in light soil. It should not be confounded with a pseudo alpina, a handsome variety of C. rotundifolia.

C. Aucheri.—This is a rather new plant of much beauty, resembling C. tridentata in all its parts, but is more vigorous. It has handsome violet flowers in June and July, and should have the moraine in sun.

C. azurea.—See C. rhomboidalis.

C. balchiniana.—A very beautiful plant of the isophylla class, with variegated leaves and soft pale blue flowers in June and July. It is not very hardy, and is a favourite basket plant for the conservatory or window. It can be grown on a wall in the open or in a sunny rockery, but should have a sheet of glass over it in winter. Division or cuttings.

C. barbata.—A well-known and very beautiful plant not always easy to grow. It is about a foot high, and has in May and June large, pale blue, drooping flowers on erect stems dropping over at the top. The beauty of the flower is enhanced by the white hairs in the mouths of the blooms. Apt to die after flowering, and should be in dry, well-drained soil or the moraine. Raise from seeds. Sun or shade. The white variety alba is very fine.

C. Barrelieri.—See C. fragilis.

C. Baumgartenii.—This seems only a form of C. rotundifolia.

C. bavarica.—The name of this plant is a little doubtful, and the one sent for it is known as the Bavarian variety of C. portenschlagiana, which see.

C. beauverdiana.—This is a lovely but rare plant, about nine inches high, and giving in June a host of delightfully shaped and coloured starry flowers. A rather dry rockery or the moraine seems to suit this Caucasian species.

C. bellidifolia.—A handsome Bellflower, about six inches high, with large, funnel-shaped bells, one on the top of each stem, in July. It comes from the Caucasus, and is described in the "Dictionary of Gardening" as C. Adami. A rather dry soil in loam, peat and grit, or the moraine.

C. cæspitosa.—For all garden purposes C. cæspitosa and its forms, with C. pumila and C. pusilla, may be treated as one species. The "Index Kewensis" and the "Kew Hand List" do not seem in entire agreement about this. A study of the forms shows that there is little difference between them, although C. cæspitosa is certainly smaller and closer in its habit. The white one, known as C. pumila or C. pusilla alba in gardens, will serve as descriptive of all. The type is blue. Then there is a beautiful light blue one called pallida, and Miss Willmott is a charming pale or silvery blue one. C. tyrolensis is practically a C. cæspitosa, and one called cochlearifolia is of taller but close growth, and with deep blue flowers. These are easily-cultivated plants almost anywhere, and look well in a wall, moraine, or the crevices of a paved path or rockwork. Easily raised by division or from seeds. Finer in semi-shade than in sun. They flower in June and July.

C. carnica.—A species not much grown, but after the style of C. rotundifolia, with narrow flowers, almost tube-like, of a violet purple and about nine inches or ten inches high. Ordinary rock garden soil. June and July.

C. carpatica.—One of the best-known and most valuable of all rock garden or border Campanulas. Some include with this the lovely C. turbinata, but there is room for a difference of opinion about this, as the true turbinata has more pubescent leaves and rarely more than one flower at the top of each stem. Some also place C. pelviformis with C. carpatica. There are many varieties besides the type, which is about a foot high, and has open flowers of a pleasing blue. There are such forms as pallida, light blue; alba, white; Riverslea and Isabel, handsome flat, blue varieties; White Star, large white; China Cup, pale blue; Little Gem, dwarf blue; Dicksoni, white; and others, besides C. turbinata and a white variety of the same nature. All are of easy culture in sun or shade, and are among the latest of the dwarf Bellflowers, coming in July.

S. ARNOTT.

(To be continued.)

ROCK AND WATER GARDEN.

CONVOLVULUS MAURITANICUS.

THIS is often miscalled the Blue Convolvulus, but it is no bluer than some Campanulas and many other mauve and lilac plants that are frequently spoken of as blue. Purplish blue or, better still, bluish purple would more nearly describe the colour. But, any way, it is a lovely plant for a warm, well-drained bank, where it will cover a large space with its constant succession of flowers from June till the frosts come. In some districts it is hard to keep through the winter, but I have had it outside here for many years, fifteen at least, and find that if I get its roots partly under a stone and leave its own dead leaves and stems on until it begins to shoot from the base in spring, it can be relied upon to rapidly reclothe the space allotted to it. The blossoms open widely in bright sunshine, and are very freely produced. The illustration shows a year old plant in early July, which will cover twice the space before the season ends. It is a native of Northern Africa, and therefore rejoices in hot weather. It is easily propagated by cuttings, but I do not remember ever finding good seed on my plants. I have a deeper-coloured variety here now, with the eye rather more distinct and whiter. So far its blossoms have been smaller than my older form, but I am hoping that may be altered when it gets more fully established.

Waltham Cross. E. A. BOWLES.

CONVOLVULUS MAURITANICUS, A USEFUL PLANT FOR A SUNNY BANK OR ROCK GARDEN.

THE ROSE GARDEN.

WORK AMONG INDOOR ROSES.

ALTHOUGH we are still in the midst of Roses among the open-air plants, it is a very important time with us now among our Roses under glass. With the majority of pot Roses outside, there is much to do among those plants that are turned out into borders or are remaining in large tubs or pots. I have frequently emphasised the importance of a clean commencement in all phases of Rose culture, and it is more than ever advisable when dealing with these plants under glass. Those plants that have had to stay under cover are likely to be carrying a number of semi-ripened leaves that would have fallen in the open by the influence of wind and rain. It often happens that under glass such foliage is simply infested with red spider and thrips. Unless this is guarded against, it stands to reason we are simply harbouring an enormous number of enemies that will play havoc with future growth. I would make a practice of frequently collecting these leaves as they fall and burning them. Do not wait for one final clearing up only. The matured leaves that are affected may as well be cut off and burnt also. They are not of much more service upon the plant, and their absence will facilitate the more complete cleansing of wall, roof, and Rose wood, which I am strongly in favour of at this time of the year, when our houses are the nearest to being empty.

I have often met with mealy bug upon Roses, and scale is quite common. Lessen your foliage as much as the condition of the plants will allow, also the wood; and much may often be cut away now, so that our Roses may be fairly ripened if they are to serve as early forcers. Where possible, and in all cases where many insects abound, I would remove the growth from the supports and thoroughly whitewash or otherwise cleanse behind all Rose growth. Fairly strong measures may be used upon partly-matured wood, and such an opportunity as the present seldom occurs. Look over the borders closely and see that they are uniform. A little well-rotted manure may be forked in, or a dressing of some approved artificial food given. But I would not do much of the latter while Roses are in a dormant state of growth. In fact, clean up and get well prepared for the housing and starting of those plants intended for midwinter flowering, which will soon have to come under cover.

A. P.

SCIENCE IN RELATION TO HORTICULTURE.

"SLEEPING DISEASE" IN TOMATO PLANTS.

THE Tomato disease commonly known as the "sleeping disease" is annually responsible for a good deal of disappointment and loss to market-gardeners. As far as England is concerned, it is a disease of comparatively recent introduction, having first made its appearance in Guernsey, after which it became troublesome in the Isle of Wight and several of the Southern Counties. The grower, as a rule, is given little or no warning of the danger. The leaves of the plant will suddenly droop in a wilted condition and completely lose the power of restoring their rigidity or "freshness," and this stage will then be more or less rapidly followed by the collapse of the stem. It is obviously a case of failure in the supply of water to the foliage. Now, it is well known that the stiffness of a leaf is due to the fact that the tiny cells composing the soft green tissue in the meshes of the network of veins are distended and made firm with water, much in the same way as a pneumatic tyre is made firm by inflating it with air. It is further known that the leaf is constantly losing water in the form of vapour, and that this act (known as transpiration) is absolutely necessary for the promotion of growth. In a healthy plant, however, this continuous loss of water is replaced by fresh supplies taken up by the root system. The absorbed water is conducted through the tubular woody cylinder of the stem, and thence into the veins of the leaf. From the veins the green tissue gets its water to counterbalance the transpiratory loss. In order to keep the leaves fresh and healthy—seeing that transpiration is constant—there must, therefore, be a sufficiency of water in the soil, healthy roots, and unimpeded water-tubes through the stem from root to foliage. The immediate cause of the "sleeping" or wilted condition of a Tomato plant suffering from this particular disease is a blockage in the water-conducting system. If you take one of the diseased plants and cut through the base of the stem, the woody ring of tissue will be seen to be darkly discoloured, and on examination with a microscope it will be discovered that this appearance is due to the presence of densely-packed fungoidal threads, choking up the water-conducting tubes. This being so, it is clear that when this stage is reached nothing can save the crop, because it is impossible to scour out these slender, microscopical tubes and clear a passage for the ascending water current. If the plants are so far advanced as to have fully-formed fruits, they may be allowed to colour off, but no further growth is at all possible. If the fruits are still young, the crop may as well be cleared off at once as allowed to remain. But if the present crop cannot be saved, safeguards can be taken against future loss. There is one thing certain, and that is, if, after the removal of the diseased crop, a second crop be planted in the same soil (unless it is specially treated), the disease will break out again with perhaps increased virulence. This is because infection comes from the soil through the root, and not from the air through the leaves. To understand this we must know something about the life-history of the fungus that chokes up the water-tubes in the vascular cylinder of the stem.

The name by which the fungus is known to science is Fusarium lycopersici, and it seems to be able to exist in an organically-manured soil (much as a Mushroom can) as well as in the body of a Tomato plant. In the soil it forms long, slender, thready growths, along which arise swellings that eventually ripen into resting spores. It has been observed that decayed Tomato stems in soil provide a very favourable food medium for the fungus at this stage of their growth. Infection takes place from the soil, the fungus always apparently selecting the youngest roots. After entering the plant, the fungal hyphæ pass into the water-tubes of the woody cylinder and grow up through them into the stem. They branch freely, some of the branches passing to the surface of the lower stem close to the ground, where they form a mouldy covering on the skin. Here, about three weeks after infection, spores are freely produced, which aid in spreading the disease. At first the spores are simple in form, but after about one week's sporulation more complicated spores of a sickle-like shape are formed which are of a pale orange colour, and possess a power of very quick germination. As infection never takes place by way of the stem, but always through the root, it follows that prevention can only be secured by such treatment of the soil as will destroy the spores of the Fusarium, and thus render it safe for the roots of the young Tomato plants. If the plants are grown under glass, of course one method of treatment might be the entire removal of the infected soil, replacing it with fresh, healthy soil for the next crop, in which case it would be wise (1) to spray the house after the removal of the old soil and before the introduction of the new with a one in twenty solution of carbolic acid, and (2) to take care that the old soil is so isolated that it cannot act as a future source of infection for Tomato plants.

In cases where it is desirable that the old soil should be used, then admixture with a heavy dressing of quicklime has been advocated. But the safest plan is to sterilise the soil by heat. This can only be done in anything like a large scale by the use of a special sterilising plant, of which several forms are now on the market.

A FINE VARIETY OF THE CARPATHIAN HAIRBELL, CAMPANULA CARPATICA PELVIFORMIS.

Tomato-growers should also know that it would be extremely unwise to use seeds obtained from parent plants affected with sleeping disease, as it is an admitted fact that such seeds may carry the infection to the next generation. Further, as a matter of precaution, only sturdy plants should be selected for planting, and all slim, drawn-up seedlings discarded. Healthy growth should be encouraged by giving a sufficiency of air, light and room during the growing season, while the importance of the addition of lime to the soil, especially if it is rich in organic material, will be obvious to all Tomato-growers. D. Houston.

Royal College of Science for Ireland.

[Messrs. Marshall, Sons and Co., Limited, of Gainsborough, send us particulars of boilers and apparatus that they now let out on hire for sterilising soil.—Ed.]

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Gladiolus Lady Faire.—A distinct novelty of remarkable colour. The flowers are white,

NEW GLADIOLUS MRS. BROMET.

brightly marked with a conspicuous chestnut crimson centre.

Gladiolus Lady Northcote.—A very pleasing variety, with flowers soft apricot in colour, blended with buff yellow; lip of chrome yellow hue. From the handsome spike that was shown it is obviously a robust variety.

Gladiolus Mrs. Bromet.—The flowers are of a pale creamy yellow colour and borne in a massive spike, as may be seen from the above illustration. These three were shown by Messrs. Kelway and Son, Langport.

Rose Mrs. Andrew Carnegie.—This variety is already well known to exhibitors of Roses. It is the result of a cross between Frau Karl Druschki and Niphetos. A sweetly-scented Rose of grand exhibition form. Described and figured in THE GARDEN, July 20, 1912, page 365, under "Gold Medal Roses."

Scabiosa caucasica magnifica.—A charming and large-flowered variety of this well-known garden plant. The flowers (illustrated on page 445) are deep lavender blue and delightfully frilled at the margin. These two were shown by Messrs. Cocker, Aberdeen.

Montbretia Queen Adelaide.—Another new seedling Montbretia that bids fair for popularity. The flowers are over three inches across, well expanded, and of deep orange colour. In the centre of the flower is a conspicuous yellow eye, with a small blotch of red on each segment. Shown by S. Morris, Esq., Earlham Hall, Norwich (gardener, Mr. Henley).

Chrysanthemum Improved Northern Star.—A very pretty annual Chrysanthemum of the C. tricolor section. The ray florets are pure white, with a yellow band at the base surrounding the purple boss or disc in the centre. An idea of the regularity in the marking of the flowers is obtained in the illustration on this page. For garden decoration and cutting purposes it will prove an acquisition. Shown by Messrs. Dobbie and Co.

NEW DAHLIAS.

The following awards to Dahlias were made by a joint committee of the Royal Horticultural Society and the National Dahlia Society. The latter society awarded a first-class certificate, and the former an award of merit, to each variety.

Lily Reed.—A good exhibition variety of the Cactus-flowered type. Colour, lemon yellow. Shown by Mr. Shoesmith.

Aphrodite. — An attractive Pæony-flowered variety, white, with orange centre. From Mr. C. Turner.

Tusca.—One of the most striking varieties of the Collarette section we have seen. Crimson, white-centred.

Prince of Orange.—Another Collarette variety. It is self-coloured, of a pleasing orange salmon. These two were shown by Messrs. Dobbie and Co.

Regulus.—A very neat-flowered Pompon of a rich purple red colour. From Messrs. J. Cheal and Sons.

NEW ORCHIDS.

FIRST-CLASS CERTIFICATES.

Brasso-Cat-Lælia The Baroness.—This is a beautiful apricot yellow hybrid, obtained by intercrossing Lælio-Cattleya Ophir and Brasso-Cattleya Mrs. J. Leemann. The flower is a good size, and the lip is prettily fringed. From Baron Bruno Schröder.

Odontonia Eileen.—This is the result of Miltonia vexillaria G. D. Owen being crossed with Odontoglossum Edwardii. The flower is flat like a Miltonia, but in colour, viz., violet purple, it resembles O. Edwardii. From J. Gurney Fowler, Esq.

AWARDS OF MERIT.

Lælio-Cattleya Ettrick (Lælio-Cattleya bletchleyensis × Cattleya aurea).—A bold flower with rosy mauve sepals and petals, and an almost crimson lip. From Messrs. J. Veitch and Sons, Chelsea.

Lælio-Cattleya Marquise de Wavrin Orchidhurst variety. — A purplish magenta hybrid with a dark crimson lip. Exhibited by Messrs. Armstrong and Brown, Tunbridge Wells.

Cattleya hardyana Mrs. Waters Butler (C. Warscewiczii × C. aurea).—This is a pretty form, somewhat light in colour, but has a large area of yellow in the throat of the labellum. From Waters Butler, Esq., Birmingham.

NEW VEGETABLES AND FRUIT.

Potato Irish King.—A white kidney variety, with clear skin and shallow eyes. From Messrs. Barr and Sons, Covent Garden.

Potato Great Scot.—A white, round variety, with netted skin and rather deep eyes. From Messrs. R. Veitch and Sons, Exeter.

Potato Southern Star.—A white, pebble-shaped Potato, with clear but slightly-netted skin and shallow eyes. From Messrs. J. Veitch and Sons, Chelsea. These had been grown in the Society's gardens at Wisley, having been sent there by the firms named.

Apple Maidstone Favourite.—This is a new early dessert variety of great promise, being a seedling from Emperor Alexander. The fruits are very aromatic, of good size and highly coloured, scarlet, with yellow on the shaded side. A young tree exhibited possessed an excellent, sturdy habit, and this new-comer should prove a very welcome addition to the early dessert Apples, coming as it does just at a time when no other is available. (See illustration on page 444). Shown by Messrs. George Bunyard and Co., Maidstone.

All the foregoing flowers, vegetables and fruit were shown before the Royal Horticultural Society on the 26th ult., when the awards were made

CHRYSANTHEMUM IMPROVED NORTHERN STAR, A BEAUTIFUL ANNUAL SUITABLE FOR CUTTING.

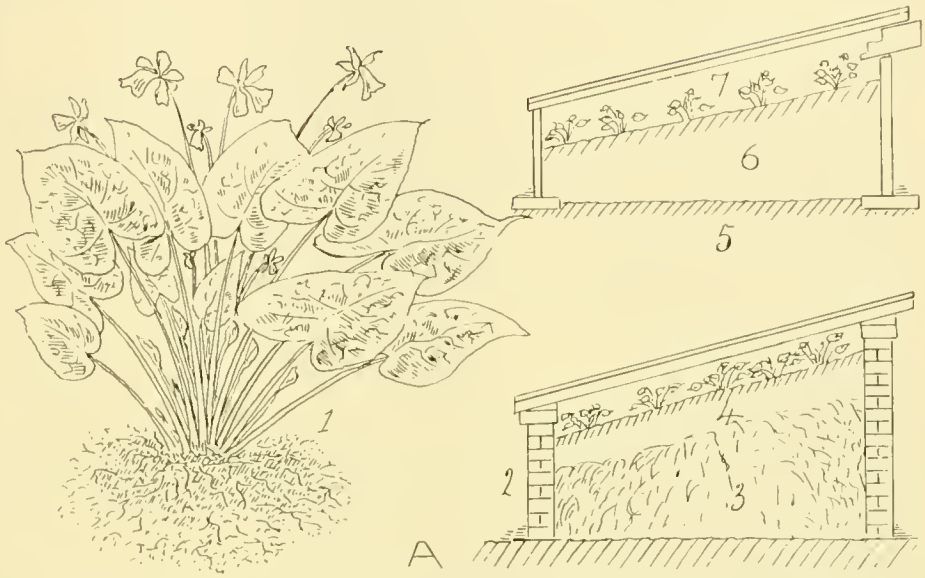
GARDENING FOR BEGINNERS.

HOW TO GROW VIOLETS FOR WINTER FLOWERING.

THE Violet, though so insignificant to look at, is a flower that finds favour with, I may say, everyone. In sheltered positions outside, the plants bear flowers almost throughout the winter months, but when given the protection of a frame they blossom profusely. Even when ordinarily grown plants are carefully lifted and replanted in prepared beds under glass, they prove very satisfactory; but where the plants have been specially treated through the summer with a view to planting in a frame in September, the results often exceed very sanguine expectations.

Planting in Frames.—Both brick and wooden frames are suitable, but those of medium depth are the best. The Violet loves the light and air, and there is, as a rule, none too much of the former in winter-time. All frames must be duly prepared prior to the lifting of the plants, as when this work is done there should be no delay in getting the lifted plants replanted. If a deep frame—one about three feet six inches or four feet—be used, it will be advisable to put in a hotbed of litter and leaves, but not to allow it to heat violently. If there is a mild bottom-heat for a few weeks, the Violet plants will be benefited. The main object of the hotbed is, however, the raising of the soil so that the leaves of the plants will only be a few inches from the glass when the soil has settled down. If there is plenty of soil and no litter, then the soil may be used. If a shallow frame be used, there will be no need to do more than put in a bed of good compost about a foot deep. Litter beds must be built up to the top of the frame and, in addition, be well trodden down. The litter will naturally sink down, and when the compost is put on, the sinking will be greater still.

Compost.—A good friable loam, if procurable, should form the bulk of the compost. One bushel of sweet leaf-soil to three bushels of loam will be a proper quantity to use. Some sand or road grit must be added. Make the soil firm, and after planting is done keep the surface of the soil loose, but only so with a pointed stick, and do not habitually tread on it between the plants.

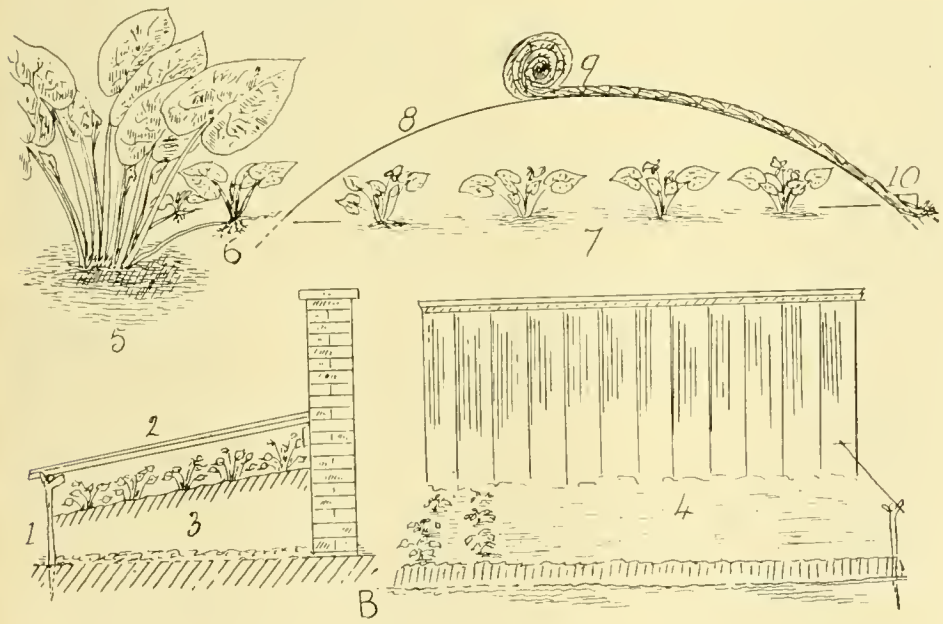


THIS IS A GOOD TIME TO LIFT VIOLET PLANTS FROM THE OPEN AND TO PLACE THEM IN FRAMES FOR WINTER FLOWERING.

Lifting the Plants.—Fig. A shows at No. 1 a grand plant neatly lifted and ready for replanting in the frame; No. 2, a brick frame with a hotbed (No. 3) made in it; No. 4, the bed of compost with the plants duly put in. No. 5 depicts a wooden frame with a deep bed of compost (No. 6) in it. Here the plants (No. 7) are close to the glass. It is easy to admit abundance of air by tilting the lights on the opposite side to that on which the wind blows. A south aspect is the best, and it is improved if there is a low fence or other protection on the north and east sides.

Protecting Plants in Open Borders.—All cultivators are not able to afford frame room for their plants, but nearly all can give them some protection, which greatly assists the flowering capacity of the plants. Fig. B shows at No. 1 stakes driven into the ground a few feet from a low wall. Glass lights are placed on the cross sticks (No. 2) and protect the Violets growing in a prepared bed (No. 3). Even a border similar to No. 4 would be useful. The lifted plants and those growing permanently in beds, as shown at No. 5, must be relieved of all runners (No. 6). Another simple way of protecting the plants in beds is shown at No. 7. Iron hoops or Hazel sticks should be fixed over the bed of plants, as shown at No. 8, and mats (No. 9) placed on them in bad weather. No. 10 shows bricks or blocks of wood to keep down the mats. Fully ventilate all plants in fine weather.

G. G.



WHEN FRAMES ARE NOT AT COMMAND, VIOLETS MAY BE GROWN IN THE OPEN BORDER AND PROTECTED AS DEPICTED HERE.

CUCUMBERS IN COOL FRAMES.

THE summer has not been an ideal one for the successful cultivation of Cucumbers in frames. At the same time it is not economical to attempt to renovate hot-beds where the plants now possess, mainly, yellow leaves and stunted fruits. Such should be cleared out without delay. Where the plants are younger, however, the cultivator may greatly assist them to bear well until the end of September, or even to the middle of October, if he cuts away all old material from the bed outside the frame and replaces it with fresh, littery manure; the heat will permeate the whole bed.

SHAMROCK.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Bulb-Planting.—Although full early yet for the planting of bulbs in beds and borders, there is no reason why Scillas, Crocuses and Narcissi should not be planted where they are to be naturalised in grass. When planting under trees, on banks, or on the outskirts of woods for natural effect, the bulbs must not be planted in an orthodox manner or the clumps be of one size or contour, but should be irregular masses that are fairly thick in the centre, gradually thinning out towards the outer edges till they merge almost imperceptibly into the surroundings. Too thin planting can never be effective, for it is a bold mass of colour that strikes one at a fair distance away which is the most effective. Those varieties that are small in stature, or that are grown for the novelty or shape of the blooms, such as N. cyclamineus and N. Bulbocodium, are far better planted in small clumps on or near the rockery, where they can be examined without too much stooping.

The Rock Garden.

General Work.—Just now there is not much bloom in the rock garden, and the very dry summer has tended somewhat to shorten the season of flowering. To keep many subjects alive, much artificial watering has had to be done, but even with this many of the subjects have suffered considerably, and to keep the rockery even tidy in appearance a great deal of picking over is necessary. As mentioned under the heading of pleasure grounds, bulb-planting may be done now, and many species and varieties of Tulips, Narcissi, Snowdrops, Scillas, Fritillarias, Muscari and Irises may be planted to give a very pleasing effect during the early spring months. Where the natural soil of the rock garden is very heavy, it may be an advantage to lighten the soil somewhat with leaf-soil and a little sand. It is also wise to mark where each clump of bulbs is, so that when planting other subjects they may be chosen so as not to clash with or cover the bulbs too densely, or the effect may be spoiled.

Plants Under Glass.

Pot Roses.—Where these are cultivated for early spring forcing, the present is a very good time to go through them, potting those that require it and top-dressing others. A fairly holding and rich loam is best for Roses, with a little bone-meal added to it. After potting, to encourage root action, the pots should be placed fairly closely together, or they may be partially plunged in ashes, or old litter placed between them will answer the same purpose. Precautions should be taken against worms getting into the pots, or they will prove troublesome when the pots are taken indoors. Spray lightly overhead for a few days after potting, should the weather be hot, not forgetting the necessity of keeping down mildew by using one or other of the fungicides.

Climbing Roses, such as Crimson Rambler, Dorothy Perkins and Hiawatha, should be potted every season, as these make much more root than the Hybrid Perpetuals and Hybrid Teas, though, unless very large plants are required, the balls of soil may be reduced somewhat at the time of potting, so that they may be returned into pots of from 9 inches to 12 inches in diameter.

Cannas.—Where these are grown under names or numbers, they should be gone over before they go out of flower to see that they are correctly named, as even one or two wrongly named this season may mean a fairly general mix up next year after the plants are split up. This remark applies equally well to any collection of named plants.

Primulas.—The latest batches will now be ready for their flowering pots, and there is no advantage in giving too big a shift at this season. Rather lighter soil may be used now as an inducement to quick rooting, and if the plants are at all backward, a little warmth in the frames or house during the night will help them materially. Earlier batches should be given more space as they require it, so that they may develop good, strong and healthy foliage that will keep through the winter.

The Kitchen Garden.

Winter Brassicas.—In this neighbourhood, owing to the drought, many of the early-planted Brassicas have not done as well as one would like to see them, and it may be wise, even at this late date, to plant as many Christmas Cabbages, Coleworts and Kales as can be got, so as to make up any deficiency. It is not necessary to plant these very far apart; 18 inches between the rows and a foot apart in the rows should be ample.

Cucumbers for winter use must be planted at once, so that they may become nicely established before the really short days. The temperature at night must be kept up fairly well to maintain a steady and healthy growth, and the syringings must not be so heavy as earlier in the season. Sufficient moisture must be given to ensure them being kept free from spider and thrip. Plants that may be fruiting in frames may be kept going some little time longer by giving the frames a good lining of fresh manure and, if necessary, a top-dressing of soil or manure inside the frames.

Fruits Under Glass.

Pot Trees.—Early-forced Peaches and Nectarines should be repotted before they lose their foliage; hence the matter should be taken in hand at once, doing the earliest varieties first and following on with the others as they become fit. Turfy loam, lime rubble, wood-ashes and a little bone-meal make a suitable compost. Except in the case of very young trees (which may be given a size larger pot), most of the trees will have to be returned to the same-sized pot, so that the old ball of soil must be considerably reduced. This should be done carefully with a pointed stick, cutting back all the large roots and preserving the fine ones as much as possible.

Careful Crocking is very necessary, and it is best to err on the side of overcrocking rather than under, as once the soil becomes water-logged the fruit is bound to suffer; so cover the crocks carefully with good fibre before adding fresh soil, ramming this latter very evenly all round, leaving sufficient space, wherever possible, for a top-dressing or two during the growing season. After potting, water thoroughly and keep well syringed for a few days until the leaves show signs of firmness again, when the syringing may gradually be left off. Plum trees also should be potted as they become fit, the same details applying here as to the Peaches and Nectarines.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Dahlias.—These showy autumn flowers are now at their best. The plants should be carefully gone over, and any shoots that are likely to be damaged by the September winds should be looped loosely in with binder twine. See that all the plants are correctly and legibly named, as it is much easier to identify doubtful varieties now than later on.

Gladioli.—See that none of the plants gets "hanked" on account of growth being made below the tie. Cut away any decayed flowers. I can strongly recommend America as a vigorous flesh-coloured variety for growing in quantity.

Carnation Layers.—These should mostly be rooted now, and, if so, should be severed from the parent plant and either planted where they are to bloom next season or planted thickly where they can have the protection later on of some sashes. We pot them up, but where there are large quantities grown, this is not always practicable. Spring planting is to be commended on clayey subsoils such as we have to deal with here.

Chrysanthemums.—These are now turning in, and will form one of the chief sources of the cut flower supply for some time. See that stakes and ties are all right, or much damage may be done by the autumn winds which are sure to come.

Sweet Peas are now getting past their best, but should stand out till the end of the month if the weather is fine. A dressing of soot or other stimulant will help to keep the flower-stems from shortening too rapidly.

The Rose Garden.

Mildew.—If present, this ubiquitous fungus must still be fought. Sulphide of potassium, at the rate of half an ounce to a gallon of water, is the most popular mixture for spraying with.

Preparing for Planting.—In two months hence the planting season will be on, and where planting is proposed and the ground is available, the preparation of the soil should be proceeded with as soon as possible. No plant appreciates the benefit of deep cultivation more than the Rose, and the ground should be trenched not less than 2 feet deep. A fairly heavy soil is preferable to a light one, and whatever the nature of the soil, happy are those who can incorporate some maiden loam with it. A dressing of lime and wood-ashes will also prove beneficial. For the benefit of beginners I hope to say something about varieties next week.

The Shrubbery.

Rhus Coriaria.—This is a most desirable subject for the shrubbery, as its purplish red foliage is very telling in autumn.

Planting Rhododendrons.—Those who contemplate planting Rhododendrons will not find a better time for the operation than the month of October. It will be well to get the soil ready for them now. Although peat is the ideal medium for Rhododendrons to root in, yet for most of the popular varieties peat is not essential, although a proportion of it is desirable. Silky loam and sand mixed with peat, moss litter from the stables, or half-decayed Oak or Beech leaves will grow Rhododendrons quite well. Beginners should note that these plants hate lime in every form.

Plants Under Glass.

Housing.—This work must now be proceeded with, beginning with such subjects as Azalea indica, Camellias and Salvia splendens. The pots should first be thoroughly washed, and any greasy substance cleaned off the surface of the soil with a thin piece of wood. Any plants requiring top-dressing should also have attention. Any necessary staking or tying should also be done now.

Potting Bulbs.—A first batch of bulbs should now be potted up if early bloom is wanted. Hyacinths, Tulips and Narcissi are all the better for being plunged in ashes, sand, or light soil for about six weeks after being potted or boxed. Give a good watering after potting or boxing.

Framing Sweet Violets.—This work should be taken in hand now. See that all runners are cut away before lifting the plants. Lift with good balls of soil, and plant in frames near the glass in about a foot of rich loamy soil. Water well when finished and put on the sashes, but keep them well tilted up night and day for the present. Shade may be afforded in the middle of the day for a week if bright sunshine occurs.

The Hardy Fruit Garden.

Manuring Small Fruit Trees.—Most authorities are now agreed that Gooseberries and Currants, especially those which have borne heavy crops of fruit, are benefited by an autumn dressing of some readily assimilated manure, natural or artificial; this assists the plumping up of the buds, in which much of the energy necessary for next season's work is stored.

Pinching.—This is a good time to go over the Apple and Pear trees and pinch the growths back to about three inches of their bases. If this was done earlier, the trees are apt to make fresh growth, but done at this period it assists the process of energising the buds.

The Kitchen Garden.

Storing Onions.—Bulbs which have been pulled for some time should now be bunched and hung up in an open shed. The remainder of the crop had better be lifted now, but if any portion of it refuses to go to rest, bend the tops gently over to arrest growth.

Planting Spring Cabbages.—This work should now be carried out. The small varieties used for this purpose may be planted thickly, 15 inches by 12 inches being quite wide enough. If pigeons are about, it will be well to put up a scarecrow.

Hoeing.—Run the hoe in between the rows of recently-sown Onions and Spinach, and all vacant ground should be kept clean and tidy.

Spring Lettuces which were sown last month will now be ready for transplanting, and the warmest part of a south border should be selected for the crop.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

A CUNNING HAND AMONG THE BRANCHES.

THE following notes on the bifurcation and branching of trees, copied from *Chambers' Journal*, Vol. VII., January to June, 1857, have been sent us by a reader: "Did you ever notice that sometimes two branches of a tree produce a perfect bifurcation; that is, that they separate from a common point? If you examine closely, you will find that such branches took their departure from one and the same bud. In rarer instances, you may see five or six branches all starting from a common centre, and with a regularity that surprises when contrasted with the arrangement of the rest of the tree. These effects are now and then produced by gemming or inoculating, and not seldom by the unassisted handiwork of Nature. When the latter is the case, the bifurcation is caused by the bite of a caterpillar or some other voracious insect. An insect has but to gnaw the point of a bud to make it grow double, triple, quadruple and so forth, to transform itself, indeed, into numerous buds, thereafter distinct and separate, each passing singly through all the phases of its vegetation. What is here said applies to buds that produce wood; it is equally true of those that produce fruit. The insect plies its mandibles and quite unconsciously starts a new order of developments. After all, however, a little reflection would lead us to believe that buds might be as fecund as seeds. If one grain of Wheat produces many grains, why not one bud many buds, if we can only get it into the right condition? What this condition is we learn from the insect. At all events, it has been learned by M. Millot-Brulé of Réthel (Ardennes), and turned to good account, for he produces effects at pleasure without waiting for the accident of an insect: With the point of a penknife or a slip of sand-paper he makes buds produce as many branches as he chooses. The notion occurred to him in 1840, and he at once made experiments which were successful; and, repeating these year by year, he has now produced a new and similarly interesting process of arboriculture. A Commission appointed by the Minister of Agriculture and Public Works to examine into it reported in the following terms of what they had seen in M. Millot-Brulé's gardens: Several Peach stems present a multitude of branches proceeding from the same centre with mathematical regularity and symmetry. By skilful disbudding, by incisions, and nipping of the buds or shoots he arranges the trees in a way at once the most picturesque and fantastique. Under his fingers the obedient branches assume the most varied and elegant forms: he increases the fructification, and develops the formation of buds according to his wish. Thoroughly to illustrate the results, diagrams would be necessary. We shall, however, endeavour to explain as clearly as the subject will admit of. M. Millot-Brulé's elementary figure consists of a straight branch which from one common centre separates into fifteen branches, resembling, in fact, a small tree with a regularly formed head. A second represents an espalier Peach tree, the branches of which radiate in the form of a wheel, each branch terminating in an oval ring of smaller branches, developed at regular intervals. From these simple forms others of a more complex nature may be produced: a single stem, properly managed, will form a square, a parallelogram, or a series of circles so elegant in design that if copied in papier-mâché they would be prized as graceful ornaments for the drawing-room. The buds may be multiplied and the branches sent off entirely at the pleasure of the cultivator. Hence there is no limit to the forms which may be produced. In the course of his experiments he discovered one of the interesting secrets of arboriculture—namely, that little branches must not be developed immediately opposite each other on a horizontal branch trained against a wall, or on stakes; and the reason is, that the branches which run upwards take up all the sap at the expense of those running downwards; the latter, consequently, languish. It therefore becomes absolutely necessary to develop the small branches alternately—each lower one between two upper ones—on all horizontal branches. It is possible, moreover, to assist the lower branches by bending the upper ones upon themselves, making them form a sort of knot, but always with the precaution of leaving the extreme points in an upward direction.

"The process in its simplest form appears to be to decapitate the buds with a penknife as soon as the sap begins to circulate in the spring. In a few days two new buds appear at the base of the bud thus operated on, and the vegetation of these is easily equalised by expert trimming, or pinching off when necessary. The equilibrium once established, these two buds may be similarly treated, and as each will produce two more, any number of branches may be obtained, and a thick, full head developed on the top of a single stem. To make branches shoot in different directions, the terminal bud of the main branch is pinched at one side or the other, according as the direction required is to the right or left; and the new buds being pinched in turn, perfect control is established over each branch from its very earliest growth."

ARSENIC COMPOUNDS AS INSECTICIDES.

VARIOUS compounds of arsenic are used in gardens as insecticides, and quite a number of the proprietary preparations sold for a similar purpose have that substance as one of the active ingredients. All these preparations are deadly poisons, hence they must be used most carefully and judiciously; where they are employed on fruit trees and bushes or on plants which will be taken to the kitchen, the subjects treated should always be syringed strongly with tepid water the next day, and even then spraying should cease at least a fortnight before the products are to be used. When the plants are not edible, nothing can excel arsenic as a thorough, long-lasting insecticide, and there should not be the slightest hesitation in using it freely. A little experimenting may be done to see if the plants are not injured by the mixtures which the gardener expects to spray in the garden, and this will prevent damage being done by scorching of the foliage; otherwise half-hardy and hardy vegetation of all kinds will not be affected in the least. We have never used any of the substances we are about to mention on decorative stove plants; perhaps the Editor may allow a little correspondence from those who have. [Certainly.—ED.] During early summer Rose caterpillars and chafers, Gooseberry caterpillars and all foliage-eating pests will be unknown where an effective arsenic preparation is employed.

Paris Green is the substance most commonly in use. It is insoluble in water and apt to scorch plants when used too strongly. The presence of lime prevents the scorching effect, and at the same time holds the particles longer in suspension in the water or liquid. A useful strength at which this substance can be used is 1oz. in five to ten gallons of lime-water—surely a cheap preparation when the Paris green can be had for 2d. an ounce. Stir the Paris green into some water until a thin, creamy liquid is obtained; pour this into the requisite gallons of lime-water, stir well up and keep stirring all the time during spraying; the substance clings fairly well to the foliage; the mixture keeps indefinitely. Spray in the evening or on a dull day when there is no strong sun, and see that the under sides of the foliage get attention. No great force is necessary, but the finer the spray the better film will be obtained over all the plants.

Lead Arsenate is more difficult to work into a thin homogeneous liquid, but once a fine mixture is obtained it lingers much longer in suspension, and stirring is not absolutely necessary if the mixture is used shortly after it is prepared. This substance is much more adhesive and will remain on the foliage even after very heavy rains; it is better than Paris green in wet weather. The action of the lead compound is slower then the former, but where the preparation is utilised to prevent an attack, rather than to eradicate a virulent pest, it will be found preferable. Many experiments have been carried out lately with

Arsenate of Iron, and these seem to prove that this is even more efficient and desirable than any of the others. Each of the three is made as recommended for the first. Iron arsenate adheres well to the foliage, and has the merit of proclaiming its presence by the dirty green film or skin over all the subject which is sprayed. This preparation is advised for Vines, and, as it does not have the scorching effect of Paris green, should be made use of when delicate plants are under treatment. After fruits are removed from plants or bushes which have been attacked by caterpillars or other pests, they should be sprayed with the arsenic mixture immediately; even in mild attacks or as a preventive its use is justified. Birds will leave buds or flowers severely alone if arsenic has been used, and practically all summer pests, including slugs, are non-existent when it is freely sprayed over the plants.

All the compounds mentioned are cheap and, in small quantities, about equal in price. A 1lb. tin of the dry powder or paste will serve a long time, and for cheapness, combined with efficiency, cannot be surpassed. H. H. A.

THE EDITOR'S TABLE.

A Tall Gladiolus.—Messrs. Barr and Sons of King Street, Covent Garden, send a Gladiolus plant, the flower-spike of which attains a height of 8 feet. Messrs. Barr write: "We thought you would like to see a specimen of a wonderfully tall new Gladiolus called Semaphore. It is a hybrid gandavensis, and has been grown for us in the trial grounds of the National Gladiolus Society at Locksheath, Southampton. All the plants reached a height of 6 feet, but this, you will see, is still taller. At Locksheath it towered above all other varieties."

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

STOCKS DYING (*M. T.*).—We failed to find any insect or fungus to account for the death of the Stocks, and the only thing to be noticed (apart from the brown and yellow colouring they showed) was the poor development of the root, as though wireworms or some other soil pest, which, however, was not present in the specimens, had destroyed them.

LILY DISEASE (*R. T.*).—The white Lilies are attacked by the ordinary Lily disease, due to the fungus Botrytis cinerea. The only thing we can suggest is to see there is plenty of lime rubble in the soil, that the plants are protected from cold winds, and to remove the top 2 inches or 3 inches of soil in spring and replace it with fresh sterilised soil. It must, however, be confessed that these measures are not entirely successful. The Lilium auratums are attacked by the fungus Rhizopus in the bulbs, and as no cure is known, it would be well to destroy them.

HONEYSUCKLE AND ROSE (*Miss E. B.*).—There does not appear to be any reason why your Honeysuckle and Rose should not flower under the conditions you name, unless you have over-pruned them. The Honeysuckle may be left quite unpruned this and next year, when you will probably obtain flowers. As a rule, Honeysuckles do not flower so well when young as they do later. Try removing the weak shoots from your Rose and leaving the more vigorous ones unpruned. It may then blossom next year. The positions are not likely to be at fault.

ABOUT NARCISSI, LILACS AND ZONAL PELARGONIUMS (*W. S.*).—You may take up the Narcissi bulbs and replant them at once. The lifting of the bulbs soon after the flowers had faded would give them a greater check than lifting them now. In pruning standard Lilacs, it is only necessary to remove very weakly shoots that would cause overcrowding as soon as the flowers have faded. Newly-potted Zonal Pelargoniums will lose leaves if the soil is kept too dry or over-watered. The leaves first turn yellow and then fall off. These plants may be repotted at any time of the year, except in the depth of winter, when the artificial heat is low. Probably your Lemon-scented Verbena plant had got dry at the roots. When this condition obtains, the leaves soon become spotted and shrivel up.

TREES AND SHRUBS.

CLEMATIS FAILING (*Devon*).—We regret to r that Clematis Vitalba will not grow in your neighb hood, and suggest the following climbers for trial: Lont ıa japonica var. halleana, Celastrus articulatus and A i- o- lochia Sipho. All are vigorous growers, and it is pro le that they will prove successful with you.

DWARF EVERGREENS FOR A DRY BANK FACING SOUTH (*A. B.*).—The following shrubs are all suitable for your purpose: Vinca minor, 3 inches to 4 inches, flowers blue; Hypericum calycinum, 9 inches to 12 inches, flowers yellow; Helianthemum vulgare and varieties, 6 inches to 9 inches, flowers yellow, red, rose and white; Cistus monspeliensis and C. corbariensis, 12 inches to 18 inches, flowers white; and Juniperus Sabina prostrata, 6 inches. Any or all of these plants are likely to thrive and provide a good effect.

LARCH LEAVES FOR EXAMINATION (*M. I.*).—The Larch is attacked by the insect called Chermes Laricio. It is a near ally of the aphides or green flies; but the waxy threads which proceed from its body prevent the insecticides from reaching it quite as easily as they will the ordinary green flies. Another thing complicates its history, in that in autumn, from now onwards, the Chermes leaves the Larch and goes to the Spruce, on which it passes the winter, the insect there producing curious, rather cone-like galls. The best treatment will be to spray the trees with a nicotine wash now, so as to kill as many of the insects as possible.

THE LARGEST TULIP TREES (*H. R.*).—Two of the largest specimens of the Tulip Tree (Liriodendron tulipifera) growing in the British Isles are to be found in the respective gardens of Sir E. Loder at Leonardslee, Horsham, Sussex, and Miss Talbot, Margam Park, Port Talbot, South Wales. These are between 95 feet and 105 feet high, with very large trunks. We have no evidence as to where and when the first variegated-leaved variety appeared. A great deal of information respecting large trees of this species may be obtained in "Trees of Great Britain and Ireland," by Messrs. Elwes and Henry.

TREATING A BANK (*M. D.*).—We think you have in the plants you name—Rhododendron, Azalea, Buddleia and Veronica—a capital set, and as in each case these are to be had in considerable variety, we should feel inclined to make the most of them. Double Gorse and some of the hardy Heaths, varieties of Erica vulgaris more particularly, might also be added, the latter being planted in irregular groups or masses along the lower portion of the bank. The bank would of necessity require some preparation, digging and manuring, and the former might be done liberally. The Buddleias might be planted at intervals of a dozen feet along the upper part, with groups of the Portuguese Heath intervening; then might appear Veronicas and Rhododendrons in the order named, or, if more variety was desired, the yellow-flowered Forsythia could be introduced here and there.

THE GREENHOUSE.

PERPETUAL-FLOWERING CARNATIONS (*J. E.*).—These may be grown on a second year, but, of course, a great deal depends upon the condition the plants are in. Furthermore, some varieties lend themselves to this treatment much more readily than others. As you speak of your plants being very tall, and, presumably, poorly furnished at the base, we should say that they are, in all probability, not worth persevering with for another season.

WATER TANK IN GREENHOUSE (*M. E. G.*).—Undoubtedly the large tank would be very useful in the greenhouse, and the water in it would be very nearly as warm as the temperature of the structure. You may cover the top of the tank with boards, having a small hinged door in a convenient place for the withdrawal of water as desired. There would be no excessive moisture from the covered tank—none that would prove harmful to plants in the house.

ARUM MRS. ROOSEVELT GOING WRONG (*Hants*).—Too much water is the main cause of your plants of Arum Mrs. Roosevelt behaving as they have done. Of course, we know nothing of the condition of the bulbs when potted, but standing in saucers of water would account for your non-success. In potting the bulbs, the pots should be effectively drained, and the soil watered but moderately till growth appears. Then, as leaves and flower-spikes develop and the pots get well furnished with roots, copious supplies of water should be given, but at the same time facilities must be allowed for the surplus moisture to drain away. After flowering, the pots may be stood out in the open till the leaves die down, when they must be kept dry in the greenhouse during the winter, and in early spring shaken quite clear of the old soil and be repotted.

PRIMULA OBCONICA (*J. E.*).—Presumably your Primulas have been flowering for some time, and are now past their best. If in good condition, they are certainly worth keeping, providing you give them careful attention with as little delay as possible. We should advise you to cut off all flowers and flower-spikes and any old and exhausted leaves; then turn the plants out of their pots and remove as much of the old soil as can be done without unduly distressing the roots. After this, repot in a mixture of loam, leaf-mould and sand, and place the plants, if possible, in a frame where they are shaded from the direct rays of the sun. In most cases you will doubtless find that after the superfluous soil is removed, the plants will not require pots any larger than those in which they have been grown. After repotting, the roots will soon take possession of the new soil and fresh blossoms be quickly pushed up.

BLUE AND MAUVE FLOWERS (*H. S.*).—In our opinion you are set an impossible task, for the number of blue and mauve flowers suitable for such a purpose is very limited. Even if flowers of all colours were allowed, and you have only a vinery and forcing pit in which to grow them, it would be a difficult matter to keep up a succession all the year round. By eliminating all flowers except those that are blue and mauve in colour, you are deprived of most subjects generally used for decorative purposes. Hyacinths, Crocuses and Scilla sibirica, if potted soon, may, by forcing, be had in bloom early in the year, and Nemesia Blue Gem, sown in the autumn, will flower in the spring. Cinerarias, too, may be had in various shades of blue, and Primulas also will supply the required tints. In summer you may depend upon such subjects as Campanulas, Achimenes, Gloxinias, Statices of sorts, Sollya Drummondii (the Bluebell Creeper of Australia), Solanum Wendlandii, Streptocarpuses, Exacum macranthum, Impatiens Oliveri and Plumbago capensis. In late summer the rich purplish blue flowers of Lasiandra macrantha are very showy, but in late autumn and winter the choice is very limited. Coleus thyrsoideus, a beautiful rich blue flower, is very fine at that season, but it is delicate for room decoration, while two mauves are Erlangea tomentosa and Erica melanthera.

FERNS FROM SPORES (*Hants*).—The spores should germinate in about a month. The first sign of growth is a green moss-like substance, which covers the surface of the soil. The spores of most Ferns are so minute that it is almost impossible to sow them thinly; hence close inspection of the moss-like matter will reveal the fact that it is made up of a vast number of tiny scales. As these grow crowded together, they are very liable to damp off, to prevent which small clumps must be carefully lifted and pricked off into prepared pots or pans of fine soil. A small-pointed stick will be very useful for lifting them from the seed-pots and also for pricking them off. It is, of course, necessary to keep them shaded. Directly the young fronds commence to push up, they should be again pricked off, in order to allow space for their development. In some soils a tiny moss will make its appearance quite as soon as the germinating spores, and will choke many of them. To prevent this it is a good plan to bake the soil before the spores are sown on it, as this destroys both vegetable and insect pests.

ROSE GARDEN.

SIZE OF SHOW BOX (*Ayrshire*).—For twelve blooms the box must be 2 feet long, and all boxes are 18 inches wide and 4 inches high in front. The tubes must be 5 inches apart each way, measuring from the centre of the tube.

WICHURAIANA ROSES TO DROOP OVER WALL (*Brownie*).—Hiawatha would do well, but Leuchtstern would be too stiff in growth. Other good, bright kinds would be Excelsa, Sodenia, Newport Fairy and Troubadour, and the following, although not reds, would be excellent: Shower of Gold, Frau C. Hesse, Leontine Gervaise, American Pillar and Silver Moon.

ROSES FOR COLD GREENHOUSE (*E. Langman*).—You would find "The Century Book of Gardening" very helpful to you, as it gives abundant hints in greenhouse management. It is published at these offices. "Rose Growing Made Easy," also from the same offices, gives most useful hints on the greenhouse culture of Roses. You could grow excellent Roses on the walls marked A and B. We advise some climbers on A, such as Gustave Regis, Florence H. Veitch, Mme. Abel Chatenay, Billiard et Barre, Climbing Lady Ashtown, Climbing Mrs. W. J. Grant, Climbing Liberty, Climbing Richmond, Bouquet d'Or, Caroline Testout and Frau Karl Druschki; for Wall B, Mrs. H. Stevens, General Macarthur, Lyon Rose, Mme. Ravary, Duchess of Wellington, Mrs. Amy Hammond, Sunburst, Joseph Hill, Prince de Bulgarie, Mme. Charles Lutand and Edward Mawley. Prepare the border well, digging it 3 feet deep, and add some good manure and basic slag to the lower soil. Plant in October or November, and prune back hard the first season about February.

KITCHEN GARDEN.

PARSLEY TURNING PINK (*C. G.*).—You might, perhaps, try the effect of watering the Parsley with a weak solution of sulphate of potash (half an ounce to a gallon of water). It may be owing to lack of potash that the plants are losing their green colouring.

ASPARAGUS THREE OR FOUR YEARS OLD (*Miles*).—The bed should be in full bearing next year. Cut all the young grass next season which appears above ground until June 20. Then stop cutting for good for that season. The small grass, if cut young, is excellent for soups. For the summer treatment, keep the bed free from weeds; give a good soaking of manure-water from stable or cowyard in July, repeating the dose a month later and again about the middle of September. If manure-water is not available, the following will answer the purpose as well: To every two gallons of clean water apply a good handful of best Canary Guano, well dissolving it in the water before applying. For the autumn and winter treatment, as soon as the grass is ripe and yellow, cut off and clear it away immediately afterwards, and rake off the loose soil or spent manure into the alley or path beside the bed. Then cover the bed over with half-rotted farmyard manure, spreading a little soil from the alley to give the bed a neat appearance, turning over the surface soil of the alleys at the same time to give them a tidy appearance during winter. For the spring treatment, at the end of March rake off the loose part of the top-dressing (manure placed on in autumn) into the alley, then dig the alley up by the side of the bed (on both sides), mixing the manure, and well water the soil. Having done this, cover the bed over (4 inches deep) with the soil from the alley. The young grass will be partly blanched in this soil as it grows, and should be cut close to the crown of the plant with a proper Asparagus knife as soon as it is 2 inches or 3 inches above ground. The best time to apply salt is immediately after the bed has been covered with soil in spring. It should be applied at the rate of a pint to the square yard of ground.

MISCELLANEOUS.

THE BEST BLACKBERRY (*Patch*).—We think the best is the Parsley-leaved English Blackberry. We know of a plant growing on woodwork with at least 30lb. of fruit on it, the first lot of fruit being picked a week ago. This is an old and well-known variety, and any nurseryman advertising in THE GARDEN will supply you.

MUSSEL SCALE ON PEARS (*W. W. H.*).—The Pears are badly attacked by the mussel scale. Spraying with caustic soda (2lb. to ten gallons of water) while the trees are dormant is the best winter treatment, for it loosens and causes to fall many of the scales made by the female under which to deposit her eggs. Scrubbing is a good measure on the trunk. If this treatment is insufficient (as is likely when the attack is so very bad), spray again when the young scales hatch out in June (or sometimes in May) with a nicotine wash.

COX'S ORANGE APPLE TREE (*K. M. K.*).—The blossom with which the tree is now furnished is the result of the premature ripening of a few of the fruit-buds, which not infrequently happens on trees recently planted or trees which have been root-pruned. The resulting fruit, if any, will be of no use, so the blossom had better be picked off. It should make little or no difference to the tree fruiting all right next year. Give the soil a good liming this autumn, forking it into the soil 4 inches deep, and applying it at the rate of one gallon to the square yard.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Musk Without Scent.—Will "F. M., Surrey," whose note on the above subject appeared on page 430 of August 30 issue, please send us his full name and address. We have a number of letters to forward to him.

Collarette Dahlia H. Farman.—This is one of the most showy members of a comparatively new race, and a valuable plant for the outdoor garden just now. Its flowers stand well above the foliage, and their crimson scarlet and deep primrose colour is very striking. Although not greatly enamoured with Collarette Dahlias, we cannot overlook the usefulness of the variety under notice where bold masses of colour are desired.

The Early-flowering Cosmos.—For some weeks we have been enjoying the dainty blossoms of the early-flowering Cosmos, a race introduced some few years ago by Messrs. Dobbie and Co. We have three varieties, viz., Crimson King, Rose Queen and White Queen. The drawback to the old Cosmos bipinnatus was its late flowering, but this has been entirely overcome in this new race, the units of which deserve to be grown in every garden. They are very dainty for cutting.

The Purple Cone-flower.—One of the most attractive plants in the herbaceous border just now is the Purple Cone-flower, Rudbeckia atropurpurea. This is a hardy perennial of stately mien, attaining a height of 5 feet or more in good soil. The flowers, which resemble in shape those of a perennial Sunflower, are bright rose purple in colour, and the plant is sometimes erroneously referred to as the red or purple Sunflower. It seems to appreciate well-enriched soil and a fairly open position.

A Beautiful Herbaceous Lobelia.—One often sees and reads of the red shades of Lobelias of the fulgens and cardinalis type, but seldom is any mention made of the beautiful Lobelia Milleri, with its flowers of rich purple. It is a hybrid between the well-known L. fulgens and the hardy L. syphilitica, and is quite as easy to grow as any of the others. A large bed of any of the ordinary bedding yellow Calceolarias intermixed with this little-known Lobelia makes a very effective autumn combination.

Fuchsias for the Outdoor Garden.—Anyone desirous of growing ornamental free-flowering plants with little trouble would do well to try some of the hardy Fuchsias for the wild garden, the front of shrubberies, or in a large bed by themselves. They commence to flower in June or early in July, and give a wealth of blossom from then until the frost comes. There are several kinds, but Fuchsia gracilis is perhaps the better known, although F. globosa, F. Riccartoni and F. coccinea are equally as good. In the South-West and other more favourable parts of England they form hedges, but in the colder regions of this country they are best treated as herbaceous plants, cutting them down in winter. If the weather is very severe they should have a layer of ashes put over the crowns; but it must be taken off as soon as the weather breaks. They may be increased by cuttings now, or by divisions in the spring.

The Lyre-flower as a Pot Plant.—The beautiful Dicentra spectabilis is too well known to need any recommendation. It is not, however, generally known that it is excellent for pot culture. Good strong pieces should be potted up now, and the pots plunged in ashes for a short time, similar to the treatment given to bulbs in pots, to encourage root growth. Then the plants may be gently forced, and will come into bloom early in the New Year, or they may be grown under cooler conditions, coming on later before the outdoor flowers.

A Charming Combination of Pink.—A few days ago we noticed a rather unique but effective combination of perennial and annual flowers. The bed was a large, circular one in a broad expanse of lawn. In this the Japanese Anemone known as Queen Charlotte had been rather sparsely planted, and between the plants the pink Mallow, Lavatera rosea splendens, had been sown. The soft pink of the Mallows harmonised perfectly with the rose pink blooms of the Anemone, and created a study in these shades that might well be emulated in other places. We understand that the Mallows were sown in the bed early in April.

A Good Autumn Rock Plant.—One of the most attractive rock plants of recent introduction is Corydalis Wilsonii. This beautiful Fumitory, which is now a mass of flower, was discovered in China by the well-known collector after whom it is named. It is one of the best of the whole genus, with its erect racemes of large, deep canary yellow flowers, 7 inches to 8 inches in length, standing above the elegantly-cut, glaucous green foliage. It commences to flower early in the summer and continues throughout the autumn and the early part of the winter, providing the weather remains mild. It appears to be quite hardy as regards cold, but should be planted so that it gets some shelter from an overhanging rock.

The Destruction of Wasps' Nests. — The following note, culled from a daily paper, is of interest and value at this season, as it gives a simple and efficacious means of reducing the wasp pest: "Having been connected with fruit cultivation for thirty-eight years, I have found the most simple and efficient way to destroy wasps' nests is by using the following method: During the day locate the nest and note if there is more than one entrance to the same. Procure an ordinary wine bottle and put in a pint or more of paraffin oil, and as soon as it is dusk take a lantern, find the hole, pour in the oil, and push the neck of the bottle into the hole and leave it. There will not be a wasp alive by the next night, all being destroyed by the fumes. It is not often there are two entrances; if there are, block the top one up securely."

CORRESPONDENCE.

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

The Best White Bedding Rose.—Like Mr. H. E. Molyneux (page 443), I should unhesitatingly select Molly Sharman Crawford and Mrs. H. Stevens as the best white bedders. My White Killarneys are simply bad from mildew, and I am not going to harbour these, Mme. Jules Grolez, Bessie Brown, and a few other notorious mildewers among my main body of plants in future. I must grow some, but they will be kept in a distant part by themselves, and probably go through the "kill or cure" test.—A. P.

Campanula lanata in Ireland.—The accompanying illustration, from a photograph kindly sent us by Miss Stokes of Baily, Dublin, represents a fine plant of the comparatively rare Campanula lanata. The plant is 2 feet 6 inches high and 3 feet 1 inch in diameter. Miss Stokes says: "The plant was raised from seed brought from Bulgaria, and has lived two years without protection, but this is the first year it has bloomed. Other plants raised from the same stock of seed have pale pink flowers."

A FINE PLANT OF A LITTLE-KNOWN BELLFLOWER, CAMPANULA LANATA, IN A READER'S GARDEN IN IRELAND.

Musk Losing Its Scent.—May I add another instance of Musk losing its scent to those already sent by correspondents of THE GARDEN? This is an old garden, and the place was formerly the residence of my grandmother, who died in the early eighties. Before that I know that the Musk which grows all round the step of the greenhouse had a delicious scent. It seeds freely, and has established itself in many odd corners; but since I came to live here ten years ago it has never had any scent at all, although I have examined it carefully many times.—M. E. CURLE, *Melrose.*

A Veteran Cyclamen.—As our July corresponds with your January, I have just been reading THE GARDEN for January 18, in which you mention a Cyclamen plant, the age of which was twenty-five years. I can easily beat you, for my friend, Mr. John Enys of Enys, Cornwall, in riding over the Holy Land, dismounted to take up a plant of Cyclamen. He afterwards came out here, where he lived many years. At one time, on leaving to pay a visit to England, he gave me the plant to take care of, saying he had had it thirty years. I put it in my greenhouse, where it bore seventy-two flowers at once. On his return he said I could keep it, but it only lived two or three years more.—EMMA T. IZARD, *Whanaka, Christchurch, New Zealand.*

The Midland Daffodil Society.—With regard to the continuance of the heretofore annual dinner of this society, referred to by Mr. Adams in your last issue, kindly allow us to say that, although when approached we agreed to subscribe to it, on more mature consideration we are strongly of opinion that it would be inopportune to hold the dinner in 1914, while the calamity of our host's death is still so fresh. The matter, however, is scarcely suited for discussion in your columns, but must be decided by the committee of the society.—P. D. WILLIAMS (President, Midland Daffodil Society), G. H. ENGLEHEART (ex-President).

Roscoea purpurea Flowering Outdoors in Scotland.—One does not often see the distinct Roscoea purpurea in the open in Scottish gardens, but I came across a good plant in bloom the other day in an Ayrshire garden. One cannot well call it showy, but it is an interesting plant, and one of the few of its class to be met with in outdoor gardens. It will never find favour with those who delight only in showy plants, but the formation of the flowers is unlike that of most border subjects, and the deep purple blooms among the lanceolate leaves are attractive in their way. I can count the Scottish gardens in which I have met with it as a hardy flower on the fingers of one hand, although one has seen it rather more frequently in places where it was protected in winter. A freely-drained, rather porous and sandy soil apparently suits it best, but it must not suffer from too much drought in summer.—S. ARNOTT.

Prepared Hyacinths to Flower at Christmas.—I promised in my article of August 9 to find out about the necessary temperature in which these must be grown to ensure their flowering at or before Christmas. When I tried them last year they were from a week to ten days earlier than ordinary ones of the same variety unprepared; but I had not flowers for Christmas. I do not wonder at it now I know that they must have a temperature of between 70° to 80° Fahr. in which to grow and develop, whereas with me they certainly never had over 65°, and, as a rule, only between 50° to 60°. Here, then, are the cultural directions in a nutshell: Pot as early as possible—in August or up to September 15 at the latest. Treat as ordinary Hyacinths, plunging them outside in a cool place until rooted. Take them out about November 12 to 15. Put them at once in a dark, moist place in a greenhouse, *avoiding any bottom-heat*, and give them a temperature of between 70° and 80°. When the stems have grown and the flower-buds are plainly visible on their pedicels, the plants must be gradually exposed to the light. The temperature must still be kept at from 70° to 80°; in fact, it must not be altered until the flowers are expanded, when it may be reduced somewhat for a day or two before the pots are brought into the dwelling-house or a cool conservatory. L'Innocence, General Pelissier, Grande Blanche, Gertrude and Marie are well suited for this particular culture. The last two require a rather longer period in the hothouse before they will bloom than the first three.—JOSEPH JACOB.

A Good Dry-Soil Rose.—That splendid variety Hugh Dickson has done remarkably well this year in a very light, sandy soil. For several weeks during July a large bed of plants yielded grand blooms, and by the second week in August commenced to flower on young shoots which were very strong. While many varieties growing near them are now badly mildewed, the plants of Hugh Dickson referred to are quite free. I have seen this Rose growing up the branches of large shrubs and trees in a garden just the same as Hybrid Teas grow—unpruned except for the thinning out of weakly shoots. The flowers were lovely, and there were plenty of them.—G. G.

Rose Irish Elegance.—In your issue of August 30 I have seen that "A. B. Essex" would be pleased to know the opinions of other readers on Rose Irish Elegance. I had one planted in December, 1910, here, on the seaside, against a wall facing west. Since the first year the plant has given me entire satisfaction, and has been the admiration of all my friends. Later on I purchased some more, which have been planted in other parts of my garden, and everywhere this variety has proved to be a free-blooming Rose, bearing the flowers since the beginning of May until almost the end of October. It suffers a little from mildew, but with a small quantity of sulphur it again recovers good health. It seems to me to be a good pillar Rose, and my first plant is now more than two mètres high.—J. NESQUITA, *Praia de Granja.*

—— "A. B. Essex," on page 430, asks for the opinions of your readers as to the merits of this Rose for the garden. If grown intelligently, there can only be one answer to that question. Admitted that the life of a full-blown flower does not exceed forty-eight hours, yet it flowers so freely that my plants of it are rarely without a bloom from May to November. As a matter of curiosity, before sitting down to write this note, I made a special journey to inspect my plants. I have growing here the original plant (I believe the first one to be planted outside the nursery of the raisers). It is nine years old, and is a bush 6 feet high and 4 feet through, carrying at the moment seventy-five buds and flowers with the promise of very many more. Of course, that is an exceptional plant, but the Rose is one

FIVE GOOD NEW NARCISSI—

1. Ethelbert.
2. Florence Pearson.
3. The Doctor.
4. Utopia.
5. Dream.

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that will do well in almost any situation. If shaded from the sun (mine are planted under a 6-foot fence and face due west), the colour will remain in the flowers till the petals drop. The contrast of the buds and flowers with the foliage, its wonderful vigour of growth, its usefulness for table decoration and the individual beauty of its blooms all go to make it one of those Roses that should be in every garden. The only possible objection to it is that it is "only a single," and that, I know, is a fatal one to many. For myself I am inclined rather to the opposite view that for pure beauty one must go to the single Rose to find it, and of all single Roses Irish Elegance is entitled to pride of place. Whether Irish Fireflame will presently depose it or not remains to be seen. I am inclined to think that it will always be difficult (and purely a matter of taste) to decide between them, and the only solution will be to grow them both.—Herbert E. Molyneux, *Southampton.*

—— I read with interest the note by "A. B. Essex" in The Garden of August 30 on Rose Irish Elegance. It has flowered freely with me, having started early in the year, and is still in bloom and making nice growth. Everyone falls in love with it. As my garden is only a few feet square, the soil sandy loam, and faces north, I think this speaks well for it.—R. F. L., *Surrey.*

—— In your issue of the 30th ult., "A. B. Essex" asks, "Is Rose Irish Elegance free-flowering?" I have grown this Rose for four years in my garden in Montgomeryshire (600 feet above sea-level), and my answer is decidedly in the affirmative. My only tree is very vigorous, and now has a leading shoot of this year's growth over six feet in height, crowned with eight buds and two open flowers. The tree has at present about twenty other flowers or buds. At the latter end of June it bore at least as many as, or more than, the present crop, and it had a period of rest lasting about a fortnight. The tree stands in the face of the south-west gales, which are very strong here, and requires, therefore, to be well staked. This has been truly a wonderful Rose year. There has been very little trouble with green fly, but the recent "muggy" weather, with heavy dews at night, has brought on mildew, and I have had a severe struggle to keep it in check. With so many blooms on the trees it is impossible to syringe them, and I have been obliged to resort to sponging the leaves with a weak solution of formaldehyde, dusting the worst affected leaves or stems with flowers of sulphur afterwards. The Rambler Roses have been particularly prolific. The masses of bloom on Dorothy Perkins have been wonderful.—Edward R. Picolmore.

—— Your correspondent "A. B. Essex" asks in your issue of the 30th ult. the opinion of other readers as to the merits of Rose Irish Elegance, especially as to its being free-flowering or the reverse. I can only say that in my garden, and still more in that of a neighbour, where the soil is better, it is almost, if not quite, the most free-flowering Rose I know. It begins with the earliest Roses, goes on with the latest, grows into a fine bush, and is generally covered with bloom. Its blooms are fugacious, that no one can deny, but the extreme beauty of the buds, especially when half open, quite makes up for that, I think. Perhaps "A. B. Essex's" friends may have made the mistake of pruning this Rose, which should never be done after the first year. Only the dead and weak wood should be cut out.—C. E. Logan Elmslie, *Farnham, Surrey.*

BEAUTIFUL BULBOUS GREENHOUSE PLANTS.

THE NERINES.

THOUGH this beautiful genus of Amaryllidæ has been cultivated for more than a century and is remarkably free from many of the diseases and difficulties which attend the cultivation of many bulbous plants, it has received very little attention, except from a few amateurs. As I have made rather a speciality of Nerines for over thirty years, and have been able to improve them to a very great extent in variety of colour, size and form of individual flowers and of the truss, and especially in their freedom and regularity of flowering, in which the old Nerine sarniensis, commonly known as the Guernsey Lily, is so deficient, I am able to give some hints on their cultivation which may be useful to others.

The wild species of Nerine are all natives of South Africa, but we know very little of their life-history or the conditions under which they grow there. Herbert, in his admirable monograph, describes the species and hybrids known seventy years ago, since when no novelties of sterling merit have been introduced, and it seems to me that unless fresh blood can be discovered, we have nearly reached the limit of possible improvement. A great many of the names recognised as specific are, in my opinion, quite unworthy of such rank, and, as all the species hybridise with more or less ease in cultivation, we may reasonably suppose that they have done so in Nature also. From time to time so-called species or hybrids have been selected, such as Planti, cornscans, atrosanguinea, Meadowbanki, which were superior to sarniensis, and probably derive their improvement in a great measure from Fothergilli, which remains the king of the true species. But the immense variety of colour which I have now obtained by intercrossing hybrids, ranging from crimson through all shades of mauve, pink and red to pure white, is so great that they have almost attained the stage of florists' flowers, and many of the seedlings which have been named, in deference to the rules of the Royal Horticultural Society's floral committee, are so near each other that they require a specialist to distinguish and judge them, just as much as Narcissi do.

What is a Good Nerine?—The standards of merit which I require in a Nerine are, first, that the six segments of the perianth shall be regular in shape and position, as in Fothergilli, and not irregular or narrow as in flexuosa and all the hybrids derived from it, of which Manselli is one of the best and one of the most floriferous. For this reason I do not look on Bowdeni, a recent introduction which is superior in size to any except Fothergilli, as a desirable parent of hybrids, though it may serve to prolong the flowering season, which is an important element in a collection of Nerines. Formerly, September and October were the season of flowering of all the older species, but now the latter half of October is the time at which in normal seasons I have the greatest show in my Nerine house. Secondly, colour, which, whatever its shade, ought to be clean, pure and sparkling with the diamond-dust-like particles which make a Nerine so beautiful in sunshine. All shades of pink, cerise and scarlet are easy enough to get, but very dark and very pale shades are not so common, for though the crossing of pudica has produced many of them, they are often deficient in size and form. A pure white Nerine of good shape has long been my great object, for though I have heard of white forms of Nerine in South Africa, the only one I was ever able to get until I raised Snowflake was flexuosa alba. The delicate waving of the edge of the petals, which is such a beautiful feature in Mrs. H. Elwes, Countess Bathurst, and others of my raising, is a matter of taste, but adds much, in my opinion, to the beauty. But no Nerine which does not flower annually under proper treatment should be looked on as perfect, shy flowering being the great defect of many of the older imported forms, which often produce only two or three spikes from a pot of ten or twelve full-sized bulbs; whereas all my best hybrids flower annually and sometimes produce two spikes on a bulb. One of the finest hybrids raised by Mr. Elliott was Purple Prince, but it had the great defect of flowering only at intervals of some years, though many that I have raised from it as the male parent are, under similar treatment, quite free bloomers. Leichtlin's best hybrid Novelty was a first-rate variety, though the flowers showed too much of the irregularity of flexuosa, just as Manselli and tardiflora do. Few, if any, of the numerous hybrids which have been raised and named at Glasnevin come up to my standard. Mr. Godman is now raising some nice hybrids, and Mrs. F. D. Godman, which I raised ten years or more ago, is one of the best colours of all. Miss Willmott is also a beauty, but hardly distinct from some seedlings of Meadowbanki.

The Cultivation of Nerines is simple enough if a few leading points are attended to. First, they require a position near the glass in a cold, unshaded greenhouse, with plenty of air during the growing season, when the thermometer should never be allowed to fall to freezing-point or to exceed 50° to 60° except in full sunshine. Secondly, they must have regular and liberal watering during the growing season, the object being to develop as many sturdy, fleshy leaves as possible on a hard, firm bulb. This is best obtained by growing them in moderate-sized, well-drained pots, in which the bulbs are about half covered with good, light, but not too sandy loam, and feeding them when the pots are full of roots, with soot-water or weak liquid manure. As soon as the leaves begin to turn yellow, in April and May, water must be discontinued, and as soon as the leaves have quite withered, the pots may be turned out into a cold frame, where they must be kept dry till the spikes begin to show in September or October. It is well to stand the pot in a pan of water when growth commences, in order to moisten the dry soil thoroughly from below. Any offsets can be taken off when repotting is done in August, and though the bulbs will continue to flower for many years without repotting, I find it best to do so about once in three years, as, if left too long, the offsets low down in the pot force the older bulbs in the centre right out of the soil and do not flower simultaneously with them.

Seed Should be Sown when ripe, and the young seedlings kept in a warmer house for two years at least without resting or drying them off. Under this treatment they will flower in much less time than if kept in the same house and ripened off with their parents. Mealy bug is the only insect pest which has ever troubled me, and when its presence is detected by the pale spots on the young leaves, the bulbs must be thoroughly cleaned with some insecticide, as in the resting season these insects often get down to the bottom of the pot among the roots. If once this pest is allowed

to spread, it becomes very troublesome, and any plants which show traces of it should be kept in quarantine and examined carefully at short intervals. If any bulbs become soft or rotten, which may be due to overwatering or want of light and air, they should be turned out of the pot at once and destroyed; but this rarely happens unless they are grossly neglected. For dinner-table decoration in the autumn I know of few, if any, plants which surpass Nerines, because their colours show up so well under a strong light, and a variety of different shades make the effect much better than when only one kind is grown. In the warmest parts of England Nerines may be grown fairly well in a cold frame all the year round, but in my experience better in pots than planted out, as I have never seen them in perfection so treated. H. J. ELWES.

TULIPS IN GRASS.

MY request for information on this subject, which the Editor so kindly inserted in the issue of April 19, has brought a good many interesting replies, including two from America and one from Germany. What follows is a sort of "resurrection pie" made from their ingredients.

The experiences recounted by the writers are various. From them, however, one or two facts may be gleaned. First, that the flowers from bulbs left in grass are much smaller than those from lifted or cultivated ones. Secondly, that the continuation of their blooming more than two, or possibly three, years depends upon the soil. Either a good rich compost must be made and introduced under the sod to plant them in, or an annual top-dressing must be given, or the land must be naturally suited for Tulips. Thirdly, that if there is a continuation of blooming at all, it is not the monopoly of any one particular type, for earlies such as Cottage Maid and Thomas Moore seem to be just as amenable to this method of growing them as are gesneriana spathulata, retroflexa, fulgens and sylvestris, neither more nor less.

The majority of letters reported an experience like my own. The blooms become smaller and fewer, and after the second year there are none at all. An American lady writes: "My experience is precisely yours. I cannot get more than one crop from Tulips grown in grass, though they are magnificent in beds, and I have given up in despair. . . . In 1911 I planted forty bulbs in grass just to see. I saw forty single leaves yesterday."

A Scotch writer says: "I have not tried a great number, but most of them behave as stated in the note. The exception with me has been T. retroflexa, which still gives a few flowers after nine or ten years, and it flowered regularly for five or six years." Mrs. Francis King (America) records her experience thus: "I have had for years a pretty planting of Vermilion Brilliant under Apple trees, but *each year* I must replant, or very little happens."

A gentleman from Henbury planted a dozen large clumps three and a-half years ago, and "they show no sign of going off." Then came the postscript, "*I ought to add that a good bed was made to plant the Tulips in.* If planted through the turf I expect there would be failures."

At Lockinge (Wantage) much the same preparation was made two years ago, but, instead of being sodded, "the beds were sown with grass after the Tulips were planted; in fact, when they were through the ground." These two instances seem to prove that it is *possible* to have a brave show of Tulips in grass for a certain number of years if pains are taken to give the bulbs a well-prepared and fairly rich rooting medium at the time they are planted.

A most interesting communication came from Sir A. B. Hepburn, who ten to thirteen years ago planted in his park at Smeaton-Hepburn in East Lothian "a lot of common garden Tulips among the grass on the side of a walk. Most (he says) have, I think, survived, though how many I put in originally I cannot say. Be that as it may, there are quite a lot, and they come up regularly every year—white, red, yellow—sadly reduced in size, but still making pleasing dots and patches of colour." In answer to my query about soil, the same gentleman was kind enough to send me a second letter, in which was this passage: "As to soils, I have them in heavy and in light loam. There is a good deal of felspar in the soil. The subsoil is boulder clay." He remarks that it "holds moisture most of the year."

A cutting from an American paper records how 27,000 early bedding Tulips were planted five years ago at Kansas City, Mo., "in holes made with a pointed spade-handle three inches under the sod. . . . To-day these Tulips are flowering almost as good as they did the first year." These and some similar instances, which space forbids me to quote, seem to show that there are a few lucky people who have soil which naturally suits Tulips, and in which, if the leaves are left to die down naturally, they continue to bloom for a certain number of years.

Of more than ordinary interest is the example from Dundalk of Tulips in grass perfecting their seeds and giving rise to a few self-sown seedlings. The writer states: "Those on the level have died out, but a few bloom each year on a mound about three yards high. The grass on this is very poor. Some have appeared from seed a few yards away in grass under small trees." I wonder what the sod is like in those centres at Aix, Florence and elsewhere, from which new neo-Tulips (Mauriana, Billietiana, Marjoletti, &c.) are from time to time collected. Should this meet the eye of anyone who personally knows those spots, it would be nice of them if they would tell us in the Correspondence columns of THE GARDEN what sort of herbage is to be found there. Summing all up, it appears that, under normal conditions, Tulips, when planted in grass, get beautifully less and less in quantity and smaller and smaller in size; only in a few favoured spots do they continue to bloom for any length of time. It is, however, possible to so ameliorate the rooting medium in which they are placed that they will give a good many years of bloom. Possibly species or varieties immediately descended from species "do" rather better than other kinds. JOSEPH JACOB.

A CHARMING CROCUS FOR THE ROCK GARDEN.

ALTHOUGH there are a number of Crocus species well adapted for growing in the rock garden, I have not found one to surpass in beauty and interest that known as Sieberi. It is one of the earliest to flower in the New Year, and if given a sunny nook the pale lavender blue flowers will open and reveal the beautiful orange scarlet stigmata. In common with other Crocuses, it needs planting in groups of not fewer than a dozen corms if a good effect is to be obtained. A. B. ESSEX.

BULB LISTS.

LIKE bedtime when one is reading a good book or the dressing-gong on a summer's evening, the bulb lists catch one unready, in the height of enjoyment of well-filled summer borders. Yet if one does not grapple with them at once and send off the resulting orders early, two evils are sure to accrue—someone who is more prompt in ordering gets the best bulbs, and even the fairly good ones we do get later on are not improved by having been kept out of the ground. Yet, however much we realise all that, it is not easy to bring on an attack of the bulb-planting fever when one's borders look so full and it is hard to think out space for planting. I have tried to make a stern rule for myself that I will not order any plants I have not fixed on a suitable site for; but I break it whenever I see something I feel I cannot live longer without, or when I get certain of the more tempting bulb lists. How can I resist a Darwin Tulip that is new to me and described as glowing salmon or tender lilac? It is enough to make one hope something will die and leave a gap to be filled.

I try each season to plant a fresh colony of certain Snowdrops. They flower so early, often in December if one gets collected bulbs planted before September has brought death to a partridge. Galanthus byzantinus is one of my favourites for this purpose, and any of the forms of Elwesii are worth the same early-to-bed treatment. Not only do they flower before their relations in older plantings, but these early-planted ones settle down and do much better than those that have been kept out of the ground. I believe it is *the* secret of success in planting Snowdrops, Anemones of the nemorosa, blanda and apennina races, Winter Aconite, Crown Imperials, Erythroniums and, of course, Narcissi, to order them as early as possible and plant them at once, or sooner if possible, as the Irishman said, after their arrival.

Of newer plants that I have tried lately I can fully recommend the new race of bulbous Irises called Dutch Irises. They are larger and earlier than Spanish Irises, and some I left unlifted for three years in a warm south border have increased wonderfully and flowered well each year. Some I cut rather freely, with long stems, have not made such good bulbs as those left uncut, but how I did enjoy the vases full of them! Some of them show distinct traces of I. tingitana as a parent, and are almost as lovely as that wayward, shy-flowering beauty. They originated in Messrs. Van Tubergen's nursery in Haarlem, but will, I expect, soon be in every other. I was greatly pleased, too, with Cyclamen repandum roseum, from the same firm, a free-flowering spring Cyclamen of a soft shade of rose. Crocus vernus Margot is another thing I try to find room for an additional big clump of each year. Its soft lilac is charming. Colchicum speciosum album is now to be bought for 6d., and, being one of the loveliest of all bulbous plants, should be in every garden; but if you want it to thrive, catch the next post and send an order to Messrs. Backhouse for it. They raised it from a single bulb that appeared in their nursery, and for some years after I first saw it there it was only possible for millionaires to think of purchasing it. I find it one of the consolations for growing old that sixpence can now be changed for this white flower of the autumn.

Scilla nutans delicata, a wild Hyacinth, pearly white, with tender blue shading and a long, drooping

head of flowers, is worth keeping a semi-shady corner for; and if you can find two such corners, plant a clump of its brother, S. n. Robin Hood, a rosy, coral-tipped form, in the second one.

If you do not know those two grand old Tazettas, Polyanthus Narcissus Bazelman major and Muzart orientalis, you should try them, and they will give you a thrill I promise you, planted in some warm south border. Do not forget Tulipa Kaufmanniana for a sunny spot, planted at least 6 inches deep, if you want to be reminded of Water Lilies in April, or T. Sprengeri if you wish to prolong your Tulip season into the first days of June. Its brilliant scarlet is only eclipsed by Habranthus pratensis, which you must also order if you have a cosy empty corner in front of some greenhouse where the pipes inside help the warmth-lovers outside. Of plants not bulbous as to their root systems, but for autumn ordering, are two out-of-the-way things that add interest as well as beauty to the garden. First, the dazzling scarlet wild Ranunculus of Palestine, R. asiaticus, often listed as Single Scarlet, is a grand thing. I think it prefers a light soil, but some well-rotted cowyard manure dug in for the roots to go down and find, and the tubers should be lifted and stored away dry as soon as the leaves die off.

Agapanthus intermedius is a better thing in hardy blue African Lilies than the older A. minor mooreanus, and if a little mound of ashes is placed over the clump in bad winters, should prove quite hardy in a south border. A. Wellighii is also hardy enough for the same treatment, and is very distinct, having drooping flowers that remain tubular. There is also a white form of it that is a good companion to the other. I think the plants I have named would be worth adding to any collection. The bill for them need not be a ruinous one, and as they should all settle down and improve year by year, it would be money better spent than on the one-year show to be derived from many of the early Tulips and bedding Hyacinths, beyond which the minds of many gardeners refuse to go when making out the autumn bulb list.

E. A. BOWLES.

MAY-FLOWERING TULIPS UNDER YOUNG APPLE TREES.

THE accompanying illustration depicts a method of growing Darwin and other May-flowering Tulips that has a great deal to commend it, but which, so far, has not been extensively adopted. In the gardens at Hallingbury, near Bishop's Stortford, which we hope to illustrate and describe in some subsequent issue, large quantities are very effectively grouped under young Apple trees, the flowers of which are open at the same time as those of the Tulips. The illustration which we publish herewith represents Tulips under young Apple trees in Messrs. R. Wallace and Co.'s nursery at Colchester, and gives an excellent idea of what might be done in many newly-planted orchards. When grown in this way there is always an abundance of long-stemmed, stately flowers for cutting, and as these last well in water, more use might be made of them for indoor decoration. We like to have them loosely arranged in large, old-fashioned bowls or vases of soft colour, and so far have found nothing to equal those made in Cornwall of the same material as the famous Cornish pitchers. Whether planted in large masses of one colour, or as a mixture, these May-flowering Tulips never appear incongruous. When sending us the photograph, Messrs. Wallace wrote: "Amateurs would be surprised at the beautiful effects to be obtained from bold plantings of Tulips under orchard trees, as shown in the accompanying illustration. The bulbs are protected to a considerable degree from their worst enemies, late frosts, cutting winds and heavy rains, and the flowers themselves develop more steadily and last longer, thanks to the thin shade cast by the trees. It is not easy to produce an ugly mixture of Darwins, and sometimes a chance planting gives unexpected pleasure in a fine contrast or harmony of colour. The lavender of Remembrance, for example, is very fine with the rose pink of Suzon. The soft pinks also go finely with the blackish maroons and dark purples, although, of course, the yellows from Vitellina and other May-flowering varieties give stronger contrasts with these blacks, crimsons and purples. Our beds are 4 feet wide, and each variety is represented by several hundred bulbs. Imagine 100 or 200 varieties representing as many different shades all flowering at one time, and your readers can appreciate the glorious riot of colour which is created in April and May."

A BEAUTIFUL GROUPING OF MAY-FLOWERING TULIPS UNDER YOUNG APPLE TREES.

POETAZ NARCISSI.

ALTHOUGH wonderful progress has been made in the world of Daffodils during the past ten or fifteen years, there has been no more important or far-reaching break than that obtained by the Rev. G. H. Englebeart when he successfully crossed Poeticus ornatus with the best forms of Narcissus Tazetta, of which Paper White and Grand Monarque are, perhaps, the best-known examples. The result of this cross was an important race of Narcissi with the hardiness and fragrance of ornatus and the free-flowering properties of the Tazetta type. The size and even contour of ornatus were also transmitted to the hybrids, so that in such varieties as Aspasia, an illustration of which is reproduced herewith, we get a number of flowers almost as large, perfect and fragrant as those of ornatus on one stem. The effect produced by a well-grown group of these is well shown in the illustration, which is from a photograph taken in Mr. W. A. Bilney's garden at Weybridge. In addition to their value for garden decoration, these Poetaz Narcissi, as the race is appropriately called, are admirable for growing in pots or bowls of fibre, while for cutting they are ideal. Fortunately, most of them are good growers, and bulbs of Aspasia and Elvira can be obtained for about 1s. 6d. per dozen. A newer and very handsome variety is Jaune à Merveille, which has a large, broad perianth of soft primrose colour, the yellow cup or eye being thinly edged with orange. As yet it is rather expensive. In addition to Aspasia and Elvira, both of which have white perianths and yellow cups, there are Ideal, white, with orange cup; Irene, pale primrose and golden yellow cup; Klondyke, yellow perianth and eye; and Triumph, white, with yellow cup. For the amateur who has not yet tried this excellent race, Aspasia and Elvira are excellent.

B. A.

NARCISSUS ASPASIA, A BEAUTIFUL POETAZ VARIETY, IN A SURREY GARDEN.

THE DAFFODIL FLY.

(MERODON EQUESTRIS.)

SINCE writing the article published in THE GARDEN of April 26, 1913, I have continued the study of Merodon equestris and gained considerably in knowledge and experience of it. It has appeared in greater numbers this year, and I have literally been "surrounded by a host of foes."

The Larva.—We are apt to charge the fly with aggressiveness, whereas it is the larva which is so destructive. The latter, in the preparation of its domicile, excavates its way into the Daffodil bulb, and this excavation is its dining-room, drawing-room, dormitory, scullery, &c. There in wanton selfishness it devours and destroys the very fabric in which it dwells. Its gluttony is insatiable; it is a recluse, receiving no visitors and holding no intercourse with its relations or neighbours. To it time is a meaningless term, and for nearly two years it awaits its metamorphosis, filled to repletion. In the article referred to I mentioned two grubs found, one in April and one in May. I collected others later on and kept a sort of menagerie, repeatedly examining and inspecting them under the microscope. They were constantly overhauled, drawings made of them in repose, travelling, turning over, &c., and in this manner I obtained many refreshing surprises in a most interesting study. The organism of Merodon equestris is wonderfully adapted to its peculiar life. I discovered that the larva has two eyes; mandibles, by which it does all its excavating, and which form the basis of its powers of locomotion; and a very flexible top lip, at the sides of which are a pair of feelers, which it runs over the surface of its path. The fore part of its body is very mobile, and can be stretched out to a great extent. With its mandibles it grips the surface on which it lies and hauls itself forward; then stretches out its neck again for a fresh grip. The mandibles are used in the same way as a sailor uses a kedge to warp his vessel along.

The Chrysalis.—After the New Year has made its appearance, the more mature larvæ make preparation for their change to the chrysalis state. First a slight discoloration appears, which gradually spreads over the whole surface of the body. While this is taking place, the grub works up into the neck of the bulb, and sometimes, after remaining in this position a short time, rises into the soil above, and stays there until its change is completed. The outer skin now hardens and a horny case is formed, and, following a further period of waiting, two short horns rise from the head. I have not discovered the purpose of these horns, but they have the appearance of projected eyes. This stage of transition depends in a great measure upon the weather, but occupies about eight weeks.

The Fly.—When the time to change from the chrysalis state arrives, the living creature bursts away two sections of its outer skin and emerges a perfect fly. This is Nature's provision for the propagation of future generations. There remain the two sections of the shell. On one of these are the two horns, in the other the cocoon, which was the creature's protection against chills during its metamorphosis. The year 1911 was very warm, and, consequently, the insect world was most active in propagation. As the year advanced, having found the two year larval period, I prophesied that 1913 would be a revelation in fly increase, and this proved to be the case. So numerous did the fly become during the current year that it attracted the notice of people who had previously been strangers to its existence, and I had enquiries from, and was called to identify it in, places where it had never been noticed before. Questions have been put as to the reasons of its visits and where it comes from; but it is a perplexing subject, and I am compelled to admit my inability to give a satisfactory answer. I myself could ask a score of questions, such as, Does it migrate when the locality becomes over-populated, like rats, mice and rabbits? I have found the fly this year in lanes, feeding on wild Hemlock; in the neighbourhood of houses, in railway stations, in fields, on grass, &c. The subject is engaging the attention of members of Daffodil societies at their conventions; but while they are talking, the fly is propagating, bulbs are dying, and growers are suffering. Meanwhile I wage constant war, give no quarter, lose no opportunity of doing what I can for its destruction, and rest not from the pursuit. At the same time I am extending my observations. Early this year I discovered the flies' forage ground. Their needs are farina and nectar, which are found in flowers, and where there are masses of flowers there will the fly be found. At a bed of yellow Marguerites, while they continued in bloom, I watched. The enemy came, but never returned after I invented and used a smaller net to work inside the one mentioned in my previous article. I had no hunting, no chasing; they came in such numbers that I killed as many as sixty-two in

one day of three hours' work. I saw one on a flower, got it between the nets, quickly shut them together, and the fly was a captive. I noticed that prior to June 12 the flies, like the antediluvians, seemed to have no object in life but to play at "catch who can," "hide and seek," and "eat and drink." After that date they became amorous, and love scenes were daily witnessed. Scotch law was prevalent, and before two or more witnesses the ceremony was perfected, while the song of joy and the hum of contentment filled the air. Before long my garden was literally cleared of them; but subsequently, at two periods with about a fortnight's interval, I was visited by six females, each seeking a home for their expected families. In killing these I was careful to find out whether the eggs were matured. Only one was ready for laying; in the others the eggs were not matured.

The marvellous construction of Merodon equestris is evidence of the supreme wisdom of the Omnipotent Mind. I made careful investigation and found the fly has three eyes, or ocelli, in a triangle at the back of its head, which are useful in cases where an enemy approaches while it is in a flower. Bees have these ocelli, and it was a revelation to me to find them in the Merodon. The size of the ocelli varies a little in the sexes, those of the female being slightly larger, and clearer from short hairs as a rule. The sexes always vary in size and markings, according to age. The male develops more of a foxy appearance, while the female exhibits more grey about the posterior. The female, too, at full maturity is one-eighth of an inch longer than a fully-matured male. I found a difference in the femur, or thigh portion, of their hind legs. That of the male has three horny projections, while that of the female is quite smooth, and if a fly is held in the hand it is possible to tell the sex by the way it irritates the skin. Both male and female have a horny substance on the back at the waist, under which is an air-chamber, while their wings are lengthened at the base by a mechanical arrangement, the edges of which are fringed with black hairs curving gently downwards and inwards. I reason from this that the air entering and leaving the chamber produces the whistling, humming sound one hears as the fly rushes through the air, and that its purpose is to intimate its whereabouts to its kind.

I have spent an enormous amount of time on my investigations relative to Merodon equestris, and THE GARDEN readers have now almost as much information of it as I myself possess. Read my previous article in conjunction with this, and we have a great advance in our knowledge. It is, of course, unnecessary for me to say anything in regard to the destruction of the larvæ, but I strongly press the necessity of the destruction of the fly. We are yearly reminded in the spring of the desirability of killing queen wasps, and so reducing the number of nests; but to Daffodil-growers the destruction of Merodon equestris is equally important, as every female fly destroyed prevents the deposit of from fifty to sixty eggs, which would ruin a similar number of bulbs; and I call upon every grower to act. Remember the foe is at the gate, and can only be vanquished by prompt and earnest attack. The plan I recommend is the use of two nets as mentioned; this is a wonderfully successful method of catching the fly. I ask any reader finding small larvæ up to the time of planting to send me a few. May I remind readers that this is the time to look for them. Seasonable precautions just now are: Rake over your beds, leave no holes for the females to get down to the bulbs. When buying, press your thumb against each bulb and refuse all soft ones. On Saturday, August 9, at 10 a.m., I placed five suspicious bulbs in water as a test. They remained there until 10 a.m. on the 11th, when I took them out. I found two bulbs good and three affected. In one case the larva had left the bulb and was alive at the bottom of the vessel; the other two were inside the bulbs, which were cut open. They were completely saturated, alive, and no worse for their bath. I put all three into a small jar with a bulb, and at 10 a.m. on August 13th one had worked its way partly into the bulb, one was quite well, and one was dead. Has any reader tested this cold water bath? In the case I refer to, the bulbs were in water forty-eight hours. The larva which left the bulb subsequently died, but the other two show no sign of suffering. GEORGE ST. OX.

NARCISSUS TRIANDRUS CALATHINUS, A BEAUTIFUL VARIETY FOR POTS OR THE ROCK GARDEN.

A DAINTY DAFFODIL.

(NARCISSUS TRIANDRUS CALATHINUS.)

THE little Daffodil named Angel's Tears is widely known by virtue of its grace and beauty, but its close relation which forms the subject of this note is not so well known as it deserves. It grows to a height of about seven inches, and is one of the most beautiful little Daffodils in existence. It is useful alike for growing in pots or for filling a sheltered pocket in the rock garden. A well-drained, gritty soil and a half-shady position seem to suit it best; but if the bulbs do not flower the first year after planting, they should be left undisturbed to establish themselves. There is a touch of interest concerning the native habitat of this variety. It was found on one of the Glénan Isles some years ago by that assiduous collector of Daffodils, the late Mr. Peter Barr. The collecting, it is said, was attended with a good deal of risk, but the most unfortunate part is that this gem is no longer to be found there, the sea having washed away all trace of it. Happily, there is a fair stock in cultivation, and it may be successfully raised from seed.

WEEDING OUT WEAK-GROWING DAFFODILS.

NOW that we have such an enormous number of really good Daffodils, I think it is high time that a good many of the poor doers were done away with. I do not object to the common old things such as Princeps, Cynosure and many others; no doubt they have long since been eclipsed by better ones on the same lines; but, after all, they are good in their way, and are, at any rate, very *cheap*.

It is some of the newer and more expensive varieties which, I think, should be dropped; they may have pretty flowers, but the plants are so weak in constitution that not one in a dozen growers can do them well, and we may be sure that any good blooms we see at the shows have been culled from among a large number of poor, deformed or undersized flowers which were not good enough for table decoration, to say nothing of the show stand. Circlet, Egret and Cresset are just three which come to my mind. All these—and there are heaps more, one might add—bear pretty flowers when really well grown; but they have very poor constitutions, never make half enough leafage, and frequent blanks are to be seen in the rows.

Of Poets there are legions; but how many make really strong growth and a good shapely bulb? Six or eight Poets would be ample for garden purposes if one could be sure of them all being good doers. I have made up my mind to gradually weed out all Daffodils of poor constitution, and if all growers would do the same, it would really be doing good work. It would be well if novelty-raisers would always keep in mind this question of constitution, and only work with good, strong-growing parents. By seeding varieties of weakly habit of growth, they have given us in the past many beautiful flowers, but plants which only one man in ten can grow.

Princess Mary has given numbers of good exhibition flowers, also numbers of things which will have to go to the rubbish heap sooner or later, because they take too much after their mother in the matter of poor health. I know there is another side to the question. A raiser may produce a new variety which is a really good plant on his ground, but which refuses to grow with the man he sells it to. That is no fault of the raiser, but bad luck for the buyer. Still, I would again urge upon hybridists the necessity for choosing healthy varieties upon which to make their crosses. With the great array of really good things in the Daffodil world already in existence, it is a pity to add anything which is not good all round; flower, length of stalk (some of my old friends will smile here) and habit of growth should all be good, or the new-comer should be relegated to the bonfire or the wild garden.

J. DUNCAN PEARSON.
The Nurseries, Lowaham, Notts.

NARCISSUS BRIGHTEYE.

THIS beautiful Narcissus, which was so well shown by Robert Sydenham, Limited, on several occasions last year, belongs to the Poeticus section, and, as its name implies, has a particularly bright yellow eye, with bright orange edging. The petals are broad and of good substance, overlapping well, so as to form a symmetrical flower of great beauty. It measures 3½ inches in diameter. This variety, in common with many other excellent new sorts, was raised by the Rev. G. H. Engleheart. As Mr. Pearson points out in the foregoing article, there seems to be far too many of these Poeticus varieties, some of which are too much alike, yet it is difficult to see what can be done when raisers continue to give us so many good ones. Perhaps Mr. F. Herbert Chapman, who has done yeoman service in the interests of the "Poets," will let us have his opinion on the subject. The illustration depicts a fine vase of Brighteye as shown by Messrs. Sydenham in London last year.

THE CROWN OR POPPY ANEMONE.

(ANEMONE CORONARIA.)

NONE of the many Anemones, or Windflowers, which adorn our gardens can hope to surpass in glorious colouring or in true value the beautiful Crown or Poppy Anemones, varieties of the Eastern A. coronaria. It has long held a high place in public favour, and those who are acquainted with the horticultural literature of the middle of the last century are well acquainted with the keen pleasure taken by the old florists in the cultivation of their named double varieties of this Crown Anemone. Nowadays, though these are still obtainable, the popular taste lies in the single Anemones or in the semi-double flowers, so grandly represented by the St. Brigid varieties, which in brilliancy and in intrinsic worth for garden decoration or for cutting are not surpassed. Much might be written on the history of the Crown Anemone and its developments; but the scope of this article will not permit of this, as it is intended to be strictly cultural, so as to afford some information for the beginner in its culture.

NARCISSUS BRIGHTEYE, A NEW POETICUS VARIETY OF GREAT PROMISE.

Raising from Seeds.—Raising from seeds is a cheap and pleasant method of securing a stock of Anemone coronaria tubers, although the work is a little troublesome. It is not, however, slow, as seeds sown in summer, as soon as ripe, will give flowering plants next summer, and those sown in early spring will give blooming tubers in the same autumn. In saving seeds, these should be taken only from blooms of the best forms and colours these being marked and the others not allowed to seed. The beds should be gone over daily, as if left the awned seeds will be scattered by the wind. As soon as the seeds can be detached without any pulling, they can be taken and spread on a sheet of paper in a sunny window or greenhouse for a day or two before sowing. If sown in the open, a bed should be made up of loam, leaf-soil and sand; but loam and sand will do. It must be light, fine, and well drained. Little drills about a quarter of an inch deep should be drawn and the seeds sown in these. As they are very woolly they are difficult to separate, and this can best be done by mixing them and rubbing them with dry sand or fine loam, sowing them thinly in the drills and covering with about a quarter of an inch of fine soil. If the weather is dry, the bed should be watered and shaded until germination takes place, which will be in a week or so. When the plants have made a pair of their rough or true leaves, they should be pricked out in similar soil about two inches apart and grown on. Seeds may also be sown in pots or boxes, and the seedlings treated in a similar way to those in the open. They may either be allowed to flower where they stand or lifted when they go to rest and replanted in their flowering quarters.

The Best Positions.—If the best flowers are desired, the beds should be in a place where they are partially shaded, and the finest I have ever seen were partially shaded by Apple trees. The soil should be well dug and manured with old manure, preferably that from the cowshed, this being put beneath, but not touching the tubers, which may be planted 2 inches deep. If the position is not ready for the tubers when they are dried off, they may be stored in paper bags in a cool place beyond the reach of frost, or in dry sand. Tubers which have been purchased can be treated in the same way. Choice varieties can be propagated by division of the tubers when at rest, but seedlings give the finest blooms, as a rule.

Time to Plant.—The best time for planting is from September to the end of October in warm, light soils; but in heavy, damp ones it is wiser to leave this until February or March. By later plantings the season may be considerably prolonged, and by sowing seeds in early spring in a frame it is possible to have flowers throughout a mild winter by keeping the young plants under glass. The writer has sown seeds in a cold frame in March and has had flowers from October onwards. The St. Brigid varieties are the best for this purpose. A rich but light and well-drained soil is essential

to really successful cultivation of the Crown Anemone. When the leaves have withered, the tubers are best lifted and stored either in bags, as previously mentioned, or in dry sand, which is better. Some experience difficulty in discerning the top of the tubers, which should be placed uppermost. These are generally marked by little knobs or protuberances whence the growths spring, but it is generally easy to discover a few of the old roots which have remained on the tubers, and this part should be placed downwards. Where there is any doubt, however, it is safer to plant the tubers sideways.

The double varieties are not now much in request, and they are neither so useful for garden decoration nor for cutting, although very handsome with their almost ball-like heads of bloom. More valuable are the double Chrysanthemum-flowered varieties, which have narrower petals and are more graceful. The ordinary single varieties are very pretty with their cup-like blooms of the most varied colouring; but the most valuable of all are the St. Brigid Anemones, which are not only very robust, but are of the most glorious colours and are generally semi-double. Some splendid strains of the St. Brigid Anemone are in cultivation. It only remains to be added that the colours are most varied. They range from purest white, through blush, rose, pink and scarlet, and from almost lilac to deep blue. For bedding purposes, separate colours can be procured.

Dumfries. S. ARNOTT.

NATURALISING DAFFODILS IN GRASS.

WITH the advent of autumn rains comes the season for planting Daffodils in grass. This is beyond doubt the most beautiful way of growing Daffodils, as the flowers are never seen to greater advantage than when planted in large breaks through an open woodland or in drifts on grassy slopes. It is necessary that the groups should be of irregular outline, with a few scattered here and there to make the grouping as informal and as natural as possible. The illustration on this page gives an excellent idea of the kind of grouping that is desirable. The best effects are produced by planting one variety by itself, such, for instance, as the fine display of Emperor seen in the illustration on page 462. Although some varieties mix well together, the different types do not enter into perfect harmony with one another. Thus the Poets and the trumpets, or the Star Narcissi and Poets, should not be intermingled at planting-time. Among the best varieties for naturalising in grassland or meadows we would place Emperor, Empress, Golden Spur and Horsfieldii as four of the very best. Henry Irving, Queen of Spain and all varieties of Poeticus are specially suitable for woodlands and orchards, also pallidus præcox in those districts where it is known to succeed. Barri conspicuus and the old Double Yellow (Telamonius plenus) are both deserving of extended planting in parkland and meadows. All Daffodils, however, may be planted in grass. C. H.

DAFFODILS NATURALISED IN GRASS IN AN OLD ORCHARD IN CUMBERLAND.

COLOURED PLATE.

PLATE 1476.

SOME GOOD NEW DAFFODILS.

WITH the exception of Utopia, or, as it is now called, Discus, these flowers were all exhibited at the Royal Horticultural Society's Forced Bulb Show on March 18 of the present year. They have no particular connection with one another beyond the fact that they are all first-class flowers in their respective classes. Dream, which is a rather small-sized white Ajax (3¼ inches by 1¼ inches by 1 inch), is a Dutch seedling, which I imagine was "spotted" as a "good thing" by Mr. Leak some few years ago, for I think I am right in saying that Messrs. Bath have now a nice little stock of it and are ready to supply any orders they may get. It is a drooping flower with a somewhat straight and very refined-looking trumpet, and should make an excellent pot plant. You know, I have a great idea of the value of Daffodils for pots, and those readers who buy the Royal Horticultural Society's Year Book will see that my opinion is there supported by a very *weighty* authority, who shares my belief that for this purpose Daffodils have a "great future" before them. In my part of the world we do not get any blooms in the open until April is well in. March, however, is no longer a non-Daffodil month, for I have a

succession of choice varieties indoors, coming on one after the other, even before February has run its course.

Florence Pearson is now getting fairly well known. I call my friend Duncan Pearson a very lucky man. I wonder if any of us raisers have got such a proportion of first-rate varieties from the seed he has sown as he has; *e.g.*, Lowdham Beauty, Elfrida Pearson, Hon. Mrs. Francklin, &c. Readers know my views about the future of this fine plant for the garden. When Florence Pearson is lower in price, it will be the Mme. de Graaff of to-day, and that splendid variety will have to suffer a partial if not a total eclipse. The Doctor is one of my own importations from the Land of Bulbs. It has not the circular perianth which many of our stricter judges still swear by, for the segments take a star-shaped form. Nevertheless, it is a good show flower, for there is no "quartering," and the texture is as smooth and refined as anyone could desire. Mr. C. Bourne had a fine example of it on his stand. In the open it is decidedly on the late side. It was the only yellow trumpet that I was able to stage at Birmingham in the abnormal season of 1911. Although smooth and refined, it is a large flower. The measurement of the bloom above referred to was 4¾ inches by 2 inches by 2 inches—larger, in fact, than an average Olympia, which is given in Robert Sydenham's book as 4½ inches by 1¾ inches by 2 inches. Ethelbert was on his stand. In writing of its singular charm, it makes a lump come in my throat to think that he will never see the sales which it certainly deserves to have; nor yet those of his Tinsel, which I consider in many ways as an improved Ethelbert. I expect I will always associate this lovely variety with "Uncle Robert," just as I do Ethelbert with Arthur Goodwin. "Quite unknowns to himself," I expect, he was the one who first introduced me to its quiet beauty by a description of it which he wrote years ago for THE GARDEN. Cartwright and Goodwin still give it a large space in their catalogue, which is, I take it, the analogous expression of a firm to the individual one of a warm corner in one's heart. In prosaic terms, it is a white-perianthed Barrii, with a rather undulating perianth and a flattish eye of pale citron, margined with a narrow band of reddish orange; breadth of flower, about 2½ inches. Utopia, which now appears in Mr. Christopher Bourne's list as Discus, first saw the light of day at the Birmingham Show of this year. I notice he has classed it as a Barrii (3b), whereas in my "Midland" notes I have got it down as a flat-eyed Leedsii, with broad and overlapping segments and a large flat eye, green in the centre, but otherwise of a beautiful shade of buff. It makes a fine show bloom, but I would like to raise the question: What is a Leedsii, and what is a Barrii? It will be interesting to see where Mr. Rudolf Barr will place his St. Olaf. These two varieties are "much of a muchness" in general appearance, and I am certainly inclined to regard both as Leedsiis, of which the Royal Horticultural Society's Classification List gives this definition: "Perianth white, and cup or crown white, cream or citron: *embracing all sizes as found in the Incomparabilis and Barrii classes.*" The italics are mine. I think we should always bear this part of the definition in mind in pigeon-holing our purchases or our own seedlings. A word of congratulation, in conclusion, to Miss West, the artist, for her very clever grouping. I have only seen her original picture, and it was charming. I hope the coloured print will do it justice.

JOSEPH JACOB.

A WOODLAND SCENE IN SPRING. NOW IS THE TIME TO PLANT THE DAFFODIL BULBS.

WHAT IS A FLORIST'S FLOWER?

I HAVE just finished reading a little book, "Daffodils," written by the Rev. J. Jacob, a name sufficiently familiar to those who read THE GARDEN. It is not a very recent book, but it is new to me, and has set me thinking. Not that there is in it anything that will appear novel or startling to experienced Daffodil-growers, the scope of the work being too limited to permit of very exhaustive or original treatment. What there is of it, however, is on sound lines, sufficiently so to lead one to hope that Mr. Jacob may presently see his way to try his hand on a larger canvas, and tell us all that there is to tell about the flower. At the same time, though I agree in the main with Mr. Jacob's ideals, preferences and general views in respect of the Daffodil, I do not invariably find myself in accord; and my object in referring to the little work is not so much to praise it as, with your permission, to touch on a point of subsidiary importance on which I join issue with the author.

My slight and friendly cavil concerns the sixteenth chapter of Mr. Jacob's book, in which he proposes to elevate the Daffodil to the rank of "florist's flower"—for as elevation Mr. Jacob would evidently regard such a change of status, though to some of us this kind of promotion may appear rather in the nature of a "kicking upstairs." Mr. Jacob looks for the coming of a latter-day Glenny to teach us what is, and what is not, desirable in the Daffodil. No doubt the instructions of a Daffodil pope might relieve judges at shows of some trouble and responsibility by rendering their duties as nearly as possible mechanical; but most lovers of the flower (lovers of the Daffodil are not all judges or even exhibitors) will prefer, I should think, to have the Narcissus left outside the group called "florist's flowers," the merits of which have too long been decided by appeal to narrow and sometimes irrational standards. Not that one would wish to belittle the achievements of the professional florist. I for one have no wish to underrate what he has done for our garden flowers. To that very striving after conventional and arbitrary standards we owe very largely the lovely varieties of Auricula, Carnation, Tulip and other flowers which beautify our beds and borders at the present moment. To be sure, it is doubtful whether the particular features which the florist has insisted upon for his special flower have always added to its beauty. A poet has told us that beauty and truth are convertible terms—"Beauty is truth, truth beauty—that is all we know and all we need to know." I do not know about that.

When we come to plain prose, such generalisations involve a certain amount of juggling with words. Anyhow, where beauty is not a matter of truth, it is purely a matter of taste; and, as we all know, there is no disputing about matters of taste. The point is that the florist, having his own notion of

beauty (his own tastes, in short), desires to impose them, and has largely succeeded in imposing them, upon other people; and so it has been in the past that, by cast-iron standards contrived to this end, the professional florist, while he achieved wonders in certain directions, has prevented the development of flowers from moving with sufficient freedom in certain other directions which are perhaps even more desirable.

Mr. Jacob, like other people, finds definitions to be troublesome things. I certainly should not care to attempt the definition of "archdeacon," but I am not so shy about "florist's flower," which is a much less elusive subject. I should say that when a flower lends itself to infinite variation in the hands of the hybridiser, and, further, has had its standards of excellence definitely determined by experts and generally accepted by growers, it becomes *ipso facto* a "florist's flower." In this sense the Auricula, Tulip and Carnation are florist's flowers. The Lily is not a florist's flower, because neither does it readily lend itself to variation, nor has it been standardised by experts. The Daffodil is, so far, not a florist's flower, because, though it is the most plastic of flowers in the hands of the breeder, it has not yet had its points definitely fixed by authority. The Daffodil, in other words, has not yet had its Glenny, for whose coming, however, Mr. Jacob is not entirely without hope; and when he comes we shall then know what a Daffodil ought to be, and can determine for ourselves the perfect flower by rule and plummet. Somerset.

(To be continued.)

NARCISSUS COLLEEN.

It generally happens that among the multiplicity of new varieties of Narcissi exhibited at the Royal Horticultural Society's meetings each spring, one or two varieties stand out from all the rest for their distinct character. So far as my memory serves me, the year 1910 only produced one such variety, viz., Colleen. It was shown by the Rev. G. H. Engleheart and passed into the hands of Messrs. Wallace of Colchester, who placed it before the Narcissus committee, and an award of merit was given. The flower is unique in colour, being of a pure Poeticus white. The cup also is white, with a pure, bright green centre and a narrow edge of green. The whole flower is of great substance, the texture of the perianth partaking more of the Barrii type than the Poeticus; but the general appearance of the flower gives one the idea of a Poet with an enlarged cup, and the usual red colour replaced by green. L. W. G.

A GORGEOUS TULIP.

Now that planting time is here I would advise readers to purchase a few bulbs of Tulipa fosteriana. If planted in good soil in a warm spot they should do well, and produce their large, glowing scarlet, goblet-shaped flowers next spring. It is one of the largest Tulips I know, and is always greatly admired in my garden. H.

DAFFODILS IN NEW ZEALAND.

The "Daffodil Notes" and correspondence contributed from time to time to The Garden by the Rev. Joseph Jacob and others are very interesting to us who are following the cult of the spring favourite here at your antipodes, and the coming of them tempts me to pen a few notes about the growing and showing of the "Daff" out here, in the hope that you may find something among them of interest to your readers in the Homeland.

NARCISSUS COLLEEN, A BEAUTIFUL NEW VARIETY WITH A LARGE EYE OR CUP.

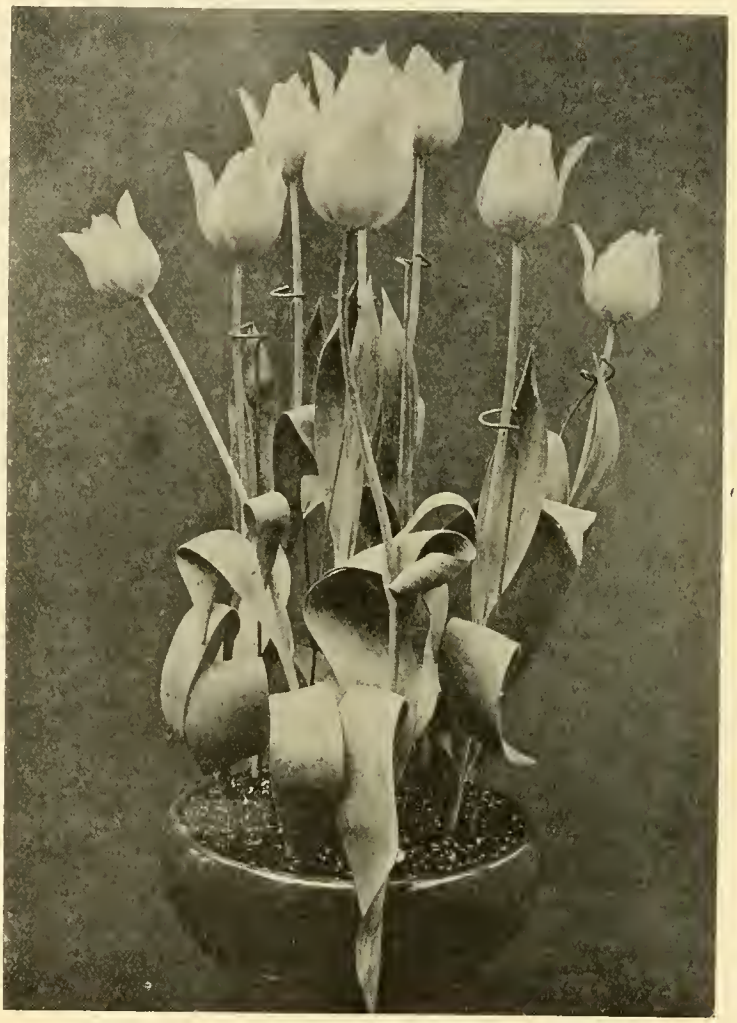
A few words first as to the geographical and climatic conditions in New Zealand may not be out of place; for notwithstanding the way this Dominion has of late years been "boomed" at home, and the large and increasing number of English people who annually visit us, I am afraid that, to the bulk of the great British public, we are *terra incognita* still. New Zealand is over one thousand miles long from North to South, with an area of over one hundred thousand square miles of plain and swamp, bush-clad ranges and snow-capped mountains, over which is spread a population of just over one million, exclusive of the native Maori. The climate varies from semi-tropical in the North to conditions approximating to those of North Britain in the South, where the winters are frequently severe, with plenty of snow and ice. The country generally enjoys an ample rainfall, and is well watered, anything in the way of drought being very unusual. The four principal centres—Auckland and Wellington (North Island) and Christchurch and Dunedin (South Island)—are widely separated, though the last two are comparatively near neighbours. It so happens that, although the Narcissus has been grown out here for well over a quarter of a century, and has now attained a strong and increasingly popular position in public estimation, it is only in the principal centres that Daffodil shows of any importance are held, and little or no interchange or competition takes place between different parts of the Dominion (except Christchurch and Dunedin). Thus there is little opportunity for New Zealand growers to compare results and progress, as the Daffodil votary, especially if he be engaged raising seedlings, cannot, during the season, spare the time for the necessary travelling. This particularly affects Auckland, the "farthest North," as the journey from here to Dunedin, for instance, by rail and steamer occupies fully two days of continuous travelling, while the trip by steamer right through occupies five days. Another obstacle in the way of inter-island competition is that our seasons do not synchronise, Auckland being four to six weeks in advance of the South, and by the time Christchurch and Dunedin are holding their Daffodil shows, our horticulturists are concentrating their attention on Roses, Sweet Peas and Carnations for the summer exhibitions. Our flower shows are therefore necessarily of a rather parochial nature, and the gathering of exhibits and the friendly intercourse and rivalry of enthusiasts from all parts, which make so largely for the success of English shows, are denied us here.

Having said so much on general conditions, I will now try to deal with Daffodils in this (Auckland) district, and as I have been a grower of them for over twenty years, and have been an active promoter of the spring show of the Auckland Horticultural Society for a large part of that time, I am fairly well acquainted with the subject. The Auckland district offers growers a large choice of soils, from very light volcanic (the Auckland isthmus is a nest of extinct volcanic cones) to the stiffest clay, and also varied aspects, and the climate, being mild, with ample rainfall during winter and spring, while heavy frosts are very rare, is eminently suitable for the cultivation of Daffodils. At the same time, these conditions necessitate a ceaseless warfare with weeds, slugs and snails throughout the season, which they also serve to lengthen much beyond what, I understand, you are accustomed to. It is not unusual to have the Paper White and other Polyanthus kinds in flower in May, early trumpets following towards the end of

June; from then onwards they come in increasing numbers till the flush of the season in September, after which time they gradually thin out, though late varieties may some seasons be cut up to the middle of November. I speak here of outdoor culture only, as practically nothing is done in this district in the way of forcing, except perhaps when one wishes to have for exhibition some variety which usually flowers too late outside.

Most of our growers regularly import the newer varieties from English firms; but, as we have no wealthy leisured class, we have to wait till the prices come within reasonable limits, though some varieties priced at £10 a bulb and over have been imported; and several devotees cultivate collections of from 100 to 300 or even more varieties. Our principal spring show, under the auspices of the Auckland Horticultural Society, is held in the first week of September, and is undoubtedly the most popular show of the year, coming as it does to tell us winter is past; for even in this favoured clime flowers are at times very scarce during the winter months. Competition is usually good, the schedule providing opportunity for all growers, classes ranging from single blooms to stands of forty varieties. As before explained, the exhibition is apt to be rather local, a radius of fifteen miles covering all exhibitors, with one or two exceptions. Recently two inland towns—Hamilton and Cambridge (80 and 100 miles South)—have instituted regular spring shows, and some exchange with Auckland has taken place, while three other provincial towns—Thames, Rotorua (celebrated for its thermal wonders) and Clevedon—also made a move last season. The fancy is as yet in its infancy in these places; but Cambridge possesses a large grower in Mr. W. F. Buckland, who is also a most successful Chrysanthemum man, known beyond New Zealand as the raiser of some sterling new varieties of that flower.

In the matter of producing new Daffodils, Auckland promises well. Probably our oldest and most successful grower is Professor A. P. W. Thomas of Auckland University, and in the fascinating hobby of raising Daffodil seedlings he is *facile princeps*. He was the first to take up the Narcissus in this district, and was quietly working away at it long before most of us knew anything better than Emperor or Empress. Now, his beautiful grounds with walled terraces, flower-beds, rockeries and winding paths formed with much labour out of the rough scoria slopes at the foot of Mount Eden—an extinct volcanic cone in the suburbs—contain, besides many imported Narcissus aristocrats, a very large number of beautiful new varieties, the result of his systematic and careful hybridising and culture for many years past. Could the pick of these be grown as he grows them (for there is a lot in the growing), and staged at Birmingham or other of the English shows, I feel satisfied they would not lack attention and appreciation from the connoisseurs. Among his earlier productions are many fine yellow trumpets of maximus and M. J. Berkeley type, and large, tall-growing incomparabilis; but among his later seedlings are many fine, "cool"-looking flowers, both trumpets and cups, including some very taking Johnstoni hybrids. Among the latter are some of the most floriferous plants I have seen, some bulbs sending up as many as four or five stalks, carrying from two to five large flowers like fair-sized trumpets, varying from pure white through shades of yellow. Although his soil is the light, loose material of the volcanic parts, a very noticeable feature is the strong growth and height usually attained, many of the trumpets and medios averaging 24 inches to the ovary, some varieties measuring as much as 30 inches, while one kind, aptly called Flagstaff, exceeds that height.



A BEAUTIFUL BOWL OF TULIPS PRINCE DE LIGNE. THESE HAVE BEEN GROWN IN FIBRE AS DESCRIBED ON THE OPPOSITE PAGE.

Owing largely to the quality of his own seedlings, Professor Thomas secured first place at our spring shows in the consecutive seasons of 1909-10-11, against strong competition with imported varieties, in the largest class (forty varieties of Daffodils, excluding Polyanthus), thereby winning outright the society's handsome silver vase. Last season he showed only in classes for single blooms (winning in eight out of nine classes, five of the blooms being his own productions) and for seedlings. He also staged for exhibition only a large and handsome group, nearly all of his own raising, and comprising, among others, the varieties commented on by Mr. F. Herbert Chapman in your issue of November 30 last.

Another enthusiast is the Rev. William Beatty, Vicar of St. Mark's, Remuera (a suburb of Auckland), the Daffodil occupying first place in his affections. Some years ago he initiated the "St. Mark's Daffodil At Home" in his Parish Hall, and it has become a successful annual fixture. It takes place usually two or three weeks prior to our principal show, and provides opportunity for a display of the advance guard of yellow trumpets, &c. Mr. Beatty's preference seems to be for the "first-early" section, and these largely preponderate in the Vicarage garden. He has done some hybridising among them, directing his efforts to obtaining "early birds," and though his productions might not attract much attention in competition with modern high-class show blooms, he has several very early yellow trumpets that will be of value in the cut-flower industry when more plentiful.

Aroused to emulation by the success of Professor Thomas, several other growers here have from time to time taken up seedling-raising, and some half-dozen of them have passed through the long patience-trying initial waiting, and there is every indication that before long we shall have competition in classes for "seedlings raised by exhibitor," hitherto monopolised by Professor Thomas. This aspect of Daffodil culture largely influences the choice when importing, and varieties with a reputation as good seeders are preferred, though we find they do not always bear out that character when acclimatised here. I suppose the change of climate and environment disturbs their constitutions to some extent. In the Auckland district the seed germinates well in specially-prepared beds in the open air, and is usually sown just after the first autumn rains, about the end of March and through April. I notice some of the authorities at home recommend sowing the seed as soon as ripe (that would be October and November here), but those who have tried this here have found no special advantage to accrue, and think the seed is safer kept until autumn than lying in the seed-bed well baked by our hot summer sun.

Auckland, New Zealand. A. E. GRINDROD.

(*To be continued.*)

GARDENING FOR BEGINNERS.

GROWING BULBS IN FIBRE.

As each September comes round, my thoughts turn unerringly to the culture of spring bulbs for window or room decoration. Hyacinths, Narcissi, Tulips and Crocuses are my favourites, and I grow all of them in bowls filled with fibre; the latter, specially prepared for the purpose and sold as carbonated fibre, may be obtained from almost any firm of nurserymen, and it is quite inexpensive. Moreover, it is clean to handle and is not offensive indoors. Almost any bowl that will accommodate the bulbs will answer, although the best kind I know is the "Oriental," supplied by Messrs. Hunter and Gow, Limited, 36, Thomas Street, Liverpool. This bowl contains an inner bowl with holes in the bottom, which allows water to drain into the outer bowl without disturbing the bulbs. However, ordinary bowls without drainage answer very well, providing that over-watering is guarded against. I find it best to grow one variety only in a bowl, although there is nothing to prevent one mixing varieties or even different kinds, such as Hyacinths over a groundwork of Crocuses. When one variety only is used to a bowl, the flowers may be relied upon to throw their spikes of bloom uniformly and at the same time; but this is not so when they are mixed.

A BOWL OF ROMAN HYACINTHS IN COURSE OF POTTING UP. THE BULBS SHOULD BE ALMOST COVERED WITH FIBRE, THE SURFACE OF WHICH SHOULD BE HALF AN INCH OR MORE FROM THE TOP OF THE BOWL.

Above all it is necessary to purchase bulbs from a reliable source. The best bulbs only should be used, and the writer has known of many failures through purchasing cheap bulbs late in the season. Small bulbs or corms, such as in the case of the Crocus, should be covered with about their own depth of fibre, but large bulbs, such as Hyacinths and Daffodils, need not be completely covered. The fibre should be moist at the time of potting up, but not saturated. It should be pressed fairly firmly *around* the bulbs. If pressed hard down on the surface, the growing bulbs may be unable to thrust their way through, with the result that the whole of the top fibre may be lifted right up above the bowl. Again, space should be left at the top of the bowl—about half an inch or so—to allow for watering. The very rough parts of the fibre should be rubbed out, and a few pieces of charcoal placed in the bottom of each bowl.

After Potting, very little attention will be needed for at least three weeks. The fibre should be kept just moist—not sodden on any account, or this may lead to the early decay of the bulbs. Keep the bowls in an airy cellar or room; nothing is worse than confining them in a cupboard. After a few weeks, growth will commence, and when this is about one inch high the bowls may be brought to the light. From this period onwards the bulbs require more moisture to supply the growing tissues of the plants. When removed to the light, let the bowls be placed in a cool greenhouse, frame or on a window-sill; but on no account must frost be allowed to reach them.

Selection of Varieties.—Of Hyacinths one cannot do better than grow such standard varieties as Grand Maître (pale blue), L'Innocence (pure white) and Moreno (pink). Most of the Crocuses can be relied upon, but I have found purpurea grandiflora (purple), King of Whites and Queen of Sheba (yellow) a grand trio. Tulips are not always a success with me, although Prince de Ligne (yellow—see illustration on opposite page), Cottage Maid (pale pink) and Keizerskroon (crimson and gold) are among the most satisfactory I have tried. Mon Tresor is a fine early yellow Tulip, and Scarlet Van Thol is certainly worth growing, as it is extra early and of very light colour. Of Narcissi, the following are to be relied upon for growing in fibre: N. obvallaris, the Tenby Daffodil (one of the first to flower), Golden Spur, Emperor, Horsfieldii or Empress, and Poeticus ornatus.

SPARTAN.

A FINE BOWL OF YELLOW CROCUSES. THESE ARE AMONG THE MOST SATISFACTORY OF ALL FLOWERS FOR GROWING IN BOWLS OF FIBRE.

POTTING AND BOXING LOBELIA.

CULTIVATORS sometimes lift and pot whole plants direct from the flower border. Very often they die before Christmas. Plants that were duly prepared by cutting back for the supply of cuttings are the best to lift and pot now; but every plant should be carefully divided, the parts being inserted round the sides of 6-inch flower-pots filled with a light and sandy compost. Whether in frames or in houses, the plants must not be subjected to a dry heat, but be very carefully watered and guarded against excessive atmospheric moisture. B.

HYACINTH GRAND MAITRE PLACED IN A BOWL OF FIBRE. ONLY THE VERY BEST BULBS SHOULD BE SELECTED FOR THIS PURPOSE.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Fuchsias.—These should be propagated now, selecting, as far as possible, the young growing shoots that are not carrying flower. Put seven or eight cuttings round the side of a 4½-inch pot, from which they may be transferred into single pots as soon as nicely rooted.

Propagation.—The work of propagating soft-wooded bedding plants must be proceeded with at once, and if suitable accommodation is provided, such plants as Coleus, Iresine, Alternanthera, Alyssum, Mesembryanthemum, Heliotrope and Ageratum will root as quickly now as at any time. Where plenty of propagating-cases with bottom-heat are at liberty, these may be utilised, but, failing these, it is wise to make up a moderately good hot-bed to take as many low frames as may be required for the cuttings, plunging the pots to the rim in Cocoanut fibre.

Abutilon Thompsonii should be treated similarly to Fuchsias, but should be given a size larger pot when potting off, and to make really good specimens must be kept growing gently throughout the winter.

Flower-Beds.—These must be kept regularly picked over, so that they present a tidy appearance as long as possible. Any beds that are quite gone over should be filled up, where the convenience allows of it, with such subjects as early-flowering Chrysanthemums, Salvia splendens, or even dwarf-growing Asters, these, of course, having been specially prepared. If in pots there will be very little trouble, except that the watering must be well attended to; but if lifted from nursery beds or borders the syringe will need to be kept going should the weather be hot and dry after shifting. The Lobelias are quite over in some districts, and these must be pulled up. If the other occupants of the beds have grown well, they will not be much missed at this season.

Plants Under Glass.

Coleus should now be propagated for stock purposes, and if put in single pots may be potted on as they are, and so form nice plants quite early. For providing cuttings for the spring, three may be put in a 3-inch pot. I make a practice of putting in more than is actually required for stock, the surplus being used in the autumn for edging small groups, or as groundwork, with small Ferns, for decorative exhibits of Chrysanthemums.

Small Decorative Subjects, such as Selaginellas, Panicum, Fittonias and Tradescantias, should also be propagated in quantity, sufficient pots being made up to last through the winter; and where large parties are given during the shooting season it is astonishing how many pots of small stuff are required.

Bouvardias and Solanums that may have been planted in the open ground or in frames should be lifted and potted at once. Considerable care will be necessary to get them over the shift without a severe check, but by careful syringing and shading for a few days and keeping the house or frame quite close they will soon begin to make fresh roots, when they may be given more air and light.

Perpetual-flowering Carnations.—If the house or houses are not already prepared for the reception of these plants, they should be cleaned at once, so as to get the plants in without delay. They should be carefully tied, and well sprayed to make quite sure that they are free of spider or any other insect pests at the time of housing. I find sulphide of potassium a really good thing to syringe with, but the plants must be allowed to dry before being taken in, or the solution is apt to mark the paint where it comes in contact with it.

The Kitchen Garden.

Spinach sown a few weeks ago should now be advanced enough for thinning. If thinned to about three inches apart now, it may be again thinned, taking out every alternate plant when large enough to use, and the remaining plants should stand the winter well. Sprinkle the ground about them well with soot during showery weather; this will keep the plants healthy as well as keep down slugs.

Lettuce should now be sown on a warm border where it will stand the winter, Hardy White Cos and Stanstead Park being two varieties as well suited for the purpose as any.

Endive.—The latest batches of this should be pricked out, choosing a warm border where lights may be placed over the plants in the event of very wet or severe weather later in the season. Early batches that are nearly fit for use should be tied up for blanching, choosing a time when the foliage is quite dry, or they may be inclined to damp or rot off.

Cauliflowers should now be sown for spring planting, choosing a position on a warm border where the soil is fairly light and well drained. In some localities they may stand in the open air, but in most places they will have to be pricked out in frames or under hand-lights to come through the winter successfully. Early London and Walcheren are the two varieties that do best in this neighbourhood, the former, if anything, being the best of the two.

Hardy Fruit.

Fruit Gathering.—Owing to the drought I find many varieties of both Apples and Pears maturing earlier than usual, so that a sharp look-out must be kept on the trees to prevent many of the fruits falling. The different varieties should be gone over once or twice a week, gathering those that show signs of falling off, and storing them as thinly as possible in the fruit-room. Extra good specimens that it may be desirable to leave on the trees should have bags placed over them; but I have noticed a decided tendency on the part of Pears that have been bagged to go sleepy much more quickly than those not so treated; this, no doubt, is due to the want of air to the fruits during the maturing period.

Strawberries.—Good, firm planting is quite necessary, and where the roots have become matted in the balls of soil they should be eased out somewhat. In the event of continued drought the plants must be kept watered until they show signs of having got a good hold of the soil.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Planting Border Pinks.—Cuttings or pipings inserted in the summer will now be ready for planting out. If they are to occupy a separate border or bed, they should be transferred to their flowering quarters forthwith. If, on the other hand, they are to be planted near the front of mixed beds or borders, they may be run out into nursery lines now, and transferred to their flowering quarters after the beds and borders have been dug over in spring. Pinks succeed best in a medium or light soil, and no rank manure should come in contact with their roots. Mrs. Sinkins and Her Majesty are fine for edgings or growing in masses. The old laced varieties are very beautiful, and Napoleon III. should not be overlooked. Many of the single seedlings are also very beautiful, both in form and colour.

Herbaceous Plants.—See that Asters, Golden Rods, tall Helianthuses and such like are proof against the autumn winds. Cut over the flower-stems of all plants as they go out of bloom, and as the natural beauty begins to wane, try to make the garden as attractive as possible by keeping everything trim and tidy.

The Rose Garden.

Selections for Planting.—I now give a few names for the benefit of beginners who may contemplate planting this November. Where a mass of bloom is the chief aim, the following can be heartily recommended: Reds—Hugh Dickson, J. B. Clark (both very vigorous), Captain Hayward, General Macarthur, Richmond and the old Hybrid Perpetual General Jacqueminot. Pinks—Caroline Testout (a vigorous grower and perpetual bloomer), La France, Mme. Abel Chatenay, Mme. Jules Grolez, Mrs. W. J. Grant, and the two old Hybrid Perpetuals Merveille de Lyon and Mrs. J. Laing. Yellows—Mme. Ravary, Le Progrès and Gustave Regis. Whites—Frau Karl Druschki, Augustine Guinoisseau and Amateur Teyssier. For general purposes the following are all excellent, and for descriptions readers should consult a descriptive catalogue: Antoine Rivoire, Avoca, Betty, Coral-lina, Edu Meyer, Edward Mawley, Killarney, La Tosca, Lady Battersea, Laurent Carle, Liberty, Lieutenant Chaure, Lyon Rose, Mme. Melanie Soupert, Marquise de Sinety, Pharisäer, Prince de Bulgarie, Viscountess Folkestone, Juliet and Lady Hillingdon, which does well here. The foregoing I know well, but they are only a few among the many.

Pruning Ramblers.—If there is a sufficiency of young, vigorous shoots, cut away all the old wood; if not, retain a portion of it. Of course, more of the old wood can be retained on screen fences and pergolas than on arches and pillars.

The Wild Garden.

General Work.—A general clean up should now be given here. The grass, if gone over with the scythe, will not cause trouble again this season. Many subjects have now gone out of bloom, and their flower-stems should be cut over. Wichuraiana Roses, too, should have a portion of the old wood thinned out to enable the young shoots to ripen. Rosa rugosa in variety is showing the brightness of its heps, and the Dogwood leaves are growing beautiful in decay, to be succeeded during the winter by the beauty of their bright bark. Where these plants are absent, they should be planted before another season.

The Pleasure Grounds.

Lawns.—Grass is failing more quickly than usual this season owing to the drought; still, the mower should be kept going till October is well in, as a few tufts, even here and there, if left cause the whole lawn to look unsightly. If wormcasts appear, the Birch broom should be brought into play, followed by the roller.

Leaves.—These are now causing trouble, and should be cleaned up once a week or oftener, according to circumstances. If skilfully handled, nothing equals a new Birch broom for this work, especially on grass or smooth walks and drives.

Pruning Hedges.—If not already done, this work should be carried through at once, for two reasons, viz., the wood is so much softer now than later on, and if Privet (evergreen) is cut later it remains bare all the winter.

Plants Under Glass.

Chrysanthemums.—The operation of taking the bud will now be well over, but attention must still be given to the work where necessary. Disbudding the terminals will now claim attention in the decorative section. The extent to which the process should be carried must depend upon the natural size of the flowers. Among the singles, for instance, varieties like Ladysmith and Kitty Bourne require no disbudding, whereas the Pagrams and others of large size should have at least half of the buds removed.

Caladiums as they go to rest should be stored away on their sides where the temperature does not fall below 60° during the winter.

Fruits Under Glass.

Pruning Early Vines.—As soon as the occupants of the early house have shed their foliage, they should be pruned. A sharp knife is much preferable to the secateurs for this work. Cut well back, as only one bud is required for each spur; and while it is true that surplus buds can be rubbed out in spring, a succession of long spurs soon handicaps the tree in the production of good fruit.

The Vegetable Garden.

Earthing-Up Leeks.—It is only the blanched part of a Leek that counts; therefore the more blanched portion the better. If planted in trenches, earthing-up is done in the same way as Celery is treated; if grown in lines, the Leeks being planted in the bottom of drills as I advocated at planting-time, the ground will now be level and a good portion of the plants blanched. This can now be increased by giving the plants an earth-up with the draw hoe in the same way as Potatoes are treated.

Brussels Sprouts.—If the plants have all the decayed and semi-decayed leaves removed, the sprouts will develop all the better.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

"THE DAFFODIL YEAR-BOOK."

THIS admirable little book is a landmark in the history of the Daffodil, a witness to its attainment to a probably permanent state of equilibrium after the many ups and downs of its long history. Old John Parkinson, born in 1567, is usually quoted as its authentic father in English gardens—he grew or knew nearly a hundred kinds—but we learn from Turner, born twenty years earlier, that before Parkinson's time "Narcissus" was "of diuerse sortes," and we may believe that some daffodil or another was to be found in English gardens almost from their first beginning. Gardening, with most other arts, was a good deal obscured in the drab stretch of the eighteenth century, but our flower reasserted itself strongly from about 1830 onwards, and thenceforward the stages of its progress are visible enough. Haworth had nearly completed his classification, still the basis of our own, at the last-mentioned date, and by 1840 the cross-breeders had broken into a new world. Herbert, Leeds, Backhouse and Barr carry us link by link to our present crowd of producers and products.

It is a far cry from the "white Daffodil" that was growing "plenteously in my Lorde's Gardine in Syon" in 1548 to the bewildering multiplicity of blossom in a 1913 Vincent Square Show. But always throughout these centuries the Daffodil has been a—we may perhaps say the—distinctively English flower, cherished and developed exclusively by English hearts, brains and hands. And its permanence is witnessed to by the book now under notice. There was a period in our recollection when the Daffodil seemed to fall into the paraphernalia of the new medieval æsthetes, and John Bull was inclined to laugh at its "cult" as a transient craze of poets and parsons. But the spring-hunger for flowers is eternal, and this flower's intrinsic beauties and possibilities have safeguarded it against both petting and ridicule, while, best insurance of all, our flower-markets demonstrate its solid commercial position. And a flower has surely come to stay when, after some 350 years of its life, the Council and President of the world's greatest horticultural society make such a book a part of their serious output, and can speak (page 80) of the "greatly increased interest taken in Daffodils." The Daffodil confraternity—a phrase now out of date, for it is fast becoming synonymous with the flower-loving public—should be grateful to the Society for such a helpful publication, and to its Editor, the Rev. Joseph Jacob, who has made it a labour of love, and has gathered and arranged his material with great skill.

The book leaves little to be desired, either outwardly or inwardly. Its strong canvas binding of quiet daffodil green is in excellent taste; it lies open well—how many books provoke hasty language by the contrary defect!—and has the best of paper and type. The contents have been so contrived as to be valuable alike to the most advanced expert and to the most tentative beginner. The dry but quite necessary official and statistical information about the London and provincial Daffodil societies and shows, with their awards, the standard classification of Narcissi for exhibition, the Royal Horticultural Society's schedule and entry form for 1914, &c., is given minutely and clearly, and is enlivened by instructive articles on hybridising, the preservation of show blooms, the novelties of 1913 with illustrations, and the pot cultivation of Daffodils. The pages on some of the "Celebrities of Daffodildom" are faced by portraits quite surprisingly well reproduced. Those who had the privilege of knowing Mr. Peter Barr will see the man himself *redivivus* in this aggressive-looking but most characteristic presentment. Mr. Andrew Kingsmill's face, too, recalls the earlier daffodil days. Alas! the flower endures, but its votaries pass.

There is place for little adverse criticism. Possibly the tables of dates of opening of specified varieties are of small practical value. Localities have each their own climate, and seasons vary so irregularly that it would take a century to establish that somewhat delusive thing an average. It may be pointed out that black-and-white illustrations of *yellow* flowers are not at all informative to the eye. Thus the entire value of Jonquilla-hybrid Marigold (Fig. 2) lies in its peculiarly rich quality of yellow, whereas the figure suggests nothing but a rather weak white Ajax. On the contrary, the frontispiece, in colour, of the two remarkable red-perianthed seedlings is a faithful and intelligible portrait. The present writer, by the way, has had more than one of such newcomers in his own seedling-beds, and has neither admiration nor use for them. A chief glory of the Daffodil lies in its classical restraint and delicacy of form and colour, and a wholly red flower would fall outside such bounds.

In a prefatory notice the President and Council of the Royal Horticultural Society explain that the annual continuance of this valuable issue must depend upon the support given by those who are concerned with its subject. They "have no desire to make profit by the undertaking, but they consider that any such publication devoted to the interests of one particular flower should come within reasonable distance of proving self supporting." Surely such support will be abundantly given. The price (1s. 6d.) is almost ridiculously small for such a book. G. H. ENGLEHEART.

THE BEAUTIFUL GROUP OF DAFFODILS EXHIBITED BY MESSRS. JAMES CARTER AND CO. AT THE LONDON SHOW IN APRIL THIS YEAR.

COSSINGTON HOUSE.

THE CROSFIELDS AND THEIR DAFFODILS.

LADIES first, please! I cannot write Crosfield in the singular, for surely no lover and exhibitor of flowers has ever had a wife that backed him up better and encouraged him more—not only by precept, but by example—than Ernest Crosfield. The good man is busy or away; she is his eyes, and goes carefully round the beds marking what he ought to see when he returns or is free. The bustling time of putting the blooms into their travelling boxes has arrived. She is always packer-in-chief at home, and a jolly good one, too, for "E. M." writes "as far as I know we never have had a single bloom damaged." What her sister and herself do when the show rendezvous is reached, every exhibitor and competitor at London and Birmingham knows full well. And what of 1911? When *he* thought the cupboard bare of prize-winners, did not *she* go into the drawing-room and the garden, and "on her own" get together a fine exhibit which secured her a place on the honour roll of winners of the Bourne Cup? Bravo! Mrs. Crosfield May your sporting example never be forgotten! We none of us know what we can do until we try.

Cossington House is a comfortable country residence about four miles from the town of Bridgwater. When circumstances necessitated a move

from Little Acton, near Wrexham, in 1908, it was very largely chosen because it was thought that the soil would be particularly suitable for Daffodil culture. Imagine, then, Mr. Crosfield's feelings when he found that it was by no means the ideal ground that he had taken it to be. It was a crushing blow, and some men might have given up in disgust. Not so the subject of my sketch. With that dogged determination to succeed which has placed him among the *very best* shots and the *very best* fishermen of his day, he began to look about to see what could be done. He was fortunate in being able to secure some wonderfully good land about four miles on the coast side of Bridgwater. And then to make his own garden, in part at any rate, suitable, at immense cost he carted sand and some of this good soil to Cossington, so that as this operation is more or less a yearly one, he has a gradually enlarging patch to which he feels safe in committing his most cherished bulbs, such as Gyrfalcon, Willonyx and Aladdin. I have twice been privileged to pay a visit here in the busy month of April. I call it to myself a "tuning up." From a show point of view I always say that Mr. Crosfield's judgment is "concert pitch." Texture and refinement come first with him—*then* colour and size. This is why he thinks so much of Willonyx, a very smooth and very refined Giant Leedsii (4 inches by 1⅛ inches by 1 inch), and Aladdin, an exquisite bicolor incomparabilis, equally chaste (4 inches by 1½ inches by 1¼ inches). They are, he tells you, precursors of a new type, which in time is destined to monopolise the show-board. Remembering how lengthy has been the evolution of the Tulip, he is probably right. Many of the flowers of to-day will be to the flowers of the future what Crosfield's exhibit of fifty at Birmingham in 1902 is to his winning collection in Class 1 in London in 1913.

How well I remember that time. It is for me an oasis in the past. I actually beat him then. Jacob was placed fourth and Crosfield fifth. When I look back and think of it, I feel as if I had had the distinction of bowling Grace. Since then how he has gone ahead! Full speed! His first Daffodil seeds were sown in 1898, when he lived at Lymm in Cheshire. There were 127 in all, of which ninety were Mme. de Graaff and Weardale, crossed both ways. When he moved to Wrexham in 1901, these were, naturally, taken great care of, and in due course bloomed, with results which must have surprised him at the time, and which probably do even more so now he can look back on them with accumulated experience. The very first to bloom was the beautiful Countess of Stamford, to be followed later on by Banzai, Lolah, Indamora, Catriona, Maid Marian, Mrs. Ernest Crosfield and Herod, a truly marvellous lot to come from a first attempt. Times have changed since then. In the fifteen years that have elapsed, Mr. Crosfield has given us many magnificent flowers.

One gets to know what the public likes best, but I am always curious to know what a raiser thinks his best. Here, then, is Mr. Crosfield's list: Five crosses—Gyrfalcon, a splendid Giant Leedsii, having height of stem, size and regularity of flower, and robustness of constitution all combined. The white of the perianth has a distinctly green tinge when compared with others. Measurement, 4¼ inches by 1½ inches by a quarter of an inch. Four crosses—Premier, Her Ladyship and Elite. Had I been the raiser, Premier would have changed places with Gyrfalcon. That wonderful row of superb giant incomparabilises acted as a loadstone all the time of my visit. Again and again I found myself there looking at the shapely yellow blooms. The large cup is a deep pure yellow, and the perianth, which is very smooth and overlapping, of a paler shade. I put my rule over an average-sized flower, and found it was 4½ inches by 1⅜ inches by 1¾ inches. Her Ladyship is a Giant Leedsii, and Elite a "much larger and a much better Susan." Three crosses—Empire, Challenger, Touchstone, Imperial, Charles Surface, Coquette, Ring Dove, Mowgli and Orb. I cannot remember having seen Coquette exhibited, but all the others, with the exception of Imperial, have appeared in public. Imperial marks Crosfield's high-water mark in yellow trumpets; 4½ inches by 1¾ inches by 1¾ inches. At its best it will take a lot of beating. Two crosses—Pixie, Firetail, Anchorite and Phantasy. While I am on the subject of records, it will be of interest if I give the names of the fifty exhibited at Birmingham in 1902, which date and occasion mark the entrance of my good friend into the competitive life of the Daffodil fraternity—Emperor, Katherine Spurrell, Sir Watkin, Mme. Plemp, M. J. Berkeley, J. B. M. Camm, Horsfieldii, Sampson, Goliath, Minnie Hume, W. Wilks, Mme. de Graaff, Glory of Leiden, Dorothy Yorke, Gem, General Murray, Mrs. Walter Ware, Shakespeare, Mrs. J. B. M. Camm, Almira, Lucifer, Nelsonii major, Weardale, Barri conspicuus, Beatrice, John Bain, Sensation, Beatrice Heseltine, Princess Mary, Citron, Crown Prince, Commodore, Mrs. M. Crosfield, Flora Wilson, Beauty, William Goldring, Waterwitch, Frank Miles, J. Davidson, Peach, Stella superba, Victoria, Nelsonii aurantius, Mrs. Langtry, Autocrat, Princess of Wales, C. W. Cowan, W. P. Milner, Prince George and Duchess of Westminster. Good flowers still many of them, but not one quite good enough for him to stage now. *Tempus edax rerum.*

Now for a bit about the internal economy of Cossington at Daffodil-time. The actual work of conveying the pollen from one flower to another is done by Tomlinson, the head-gardener. He works to a plan, which has been carefully prepared by Mr. Crosfield the previous summer. If such a list were not made, it would be impossible to know what bulbs of late varieties to pot up so as to have the pollen ready for the early-flowering seed parents; and, secondly, by it he is able to avoid repeating altogether the crosses of one season the next. The cutting for show is always done by Mr. Crosfield himself. From that moment until they are safely landed on the show stage he watches over each flower with unremitting attention. The little upstairs room in the outhouse is constantly visited, the light is adjusted as frequently as circumstances require it, and the proper degree of humidity kept up. Every now and again some are brought into the drawing-room to get a stronger light or greater warmth. Once when I was there a sudden fall in the temperature occurred. "In a jiffy" every one of us was as busy as a bee conveying the precious vases to the genial warmth of the linen-room, where they were examined in detail by Mrs. Crosfield and her sister and dealt with accordingly. It showed me the pains that are, and must be, taken to get together a good collection of blooms for the show day. I do not think anyone can beat "E. M." as a preparer for show. He seems to know *instinctively* what to do with each variety, but it is really the knowledge born of observation and practice, for like an experienced runner who knows himself, and never slackens until the tape is breasted, he gets all he can out of each individual flower. A last reference must be to the drawing-room. What it is at other times I know not, but in April it is a regular Daffodil bower. The blooms are here, there and everywhere. Vases of the very choicest varieties cheek by jowl with more ordinary ones. A Tom Tidler's ground, whence the Bourne Cup blooms of 1911 came. Such a wealth of flowers that no Tulip feast of a Turkish Sultan can have been more glorious. Plenty to look at for hours if the day should be wet. It is a reflection, or rather an April embodiment, of the spirits of the two genii of the place in their busy spring season, for, like the drawing-room, they are "all Daffodils" then, whatever they may be during the remaining twelve months.

JOSEPH JACOB.

REGISTRATION OF NEW PLANTS.

IN conformity with the decisions arrived at by the International Congress of the International Union of Professional Horticulturists, which met at Luxemburg in 1911, in London in 1912 and at Ghent in 1913, a bureau for the registration of new plants has been formed, to commence in the summer of 1913, under the management of the general secretary of the Union. This bureau is formed for the purpose of making an official list (origin, classification and description) of new varieties of all kinds of plants, and to establish a right of priority, according to the dates of demand for registry given by the growers themselves. The raisers of new varieties of plants should therefore address the list of their novelties for the term 1913–14 to M. van Lennep, Secrétaire Generel de l'Union Horticole Professionel Internationele, 15 Molenstraat, The Hague, Holland, who will acknowledge reception according to the order of their arrival, and state the number under which the new varieties are entered in the official register.

In order to make the descriptions simple and precise, and after the experience gained by the attempt of last year, it has been resolved that the descriptions shall not exceed three lines. The exact name of the species to which the novelty belongs should be mentioned, as well as the section of the species in which it is to be found. For example, if it refers to a Rose tree, give (1) the words "Rose tree"; (2) if it refers to a hybrid of the Tea Rose, write the words "Tea Hybrid" (or a suitable abbreviation) before the name of the new variety. Proceed in the same way with all other species. If possible, give the description in three languages—French, English and German—each description not to exceed three lines. If the grower himself does not give the translations, the general secretary will not be obliged to do the same. For this first year a registration fee of two francs only has been fixed for each new variety, with the right of (1) being entered in order on the Register; (2) being transcribed on the Bulletin of the U.H.P.I.; (3) to the probable publication by the professional horticultural organs belonging to affiliated associations after their publication in the Bulletin of the Union. For the following term of 1914–15 supplementary charges will be fixed for the work occasioned by the last two reports following the decision that will be taken by the next Congress.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Potatoes Free From Disease.—In the monthly report just issued by the Board of Agriculture, mention is made of the fact that Potatoes are remarkably free from disease this year. This is no doubt due to the dry weather that was experienced during July, when damp conditions, occasioned by thundery weather, usually prevail. Owing to the drought, the tubers generally are small, and the yield is likely to be below the average.

The Cornish Heath (Erica vagans).—This delightful Heath, abundant on the moors of Cornwall, is now flowering to perfection in many gardens where Heaths are treasured. It forms a neat bush less than a foot in height, which at this season is covered with purplish red flowers. There is a white form of the Cornish Heath which is quite as showy as the type, and both are admirably suited for massing in those gardens where Heather and other peat-loving subjects are known to thrive.

Rudbeckias or Cone-Flowers.—At the present time many herbaceous borders are gay with these flowers. There are the annual ones in their golden and brown hues, of which Rudbeckia amplexicaulis, R. bicolor superba, R. b. Solfatara and R. Drummondi are some of the best. Then, among the perennial ones we have R. Newmanii, R. laciniatus flore pleno and R. Herbstsonne. The last named is without doubt the best of them all. Its large, bright yellow flowers are borne on stems 5 feet to 6 feet high above the dark green foliage, and it is in every way a very desirable plant for the flower garden.

Rose Aimee Vibert.—There are not many varieties of Roses that flower more freely or are more serviceable in a garden than this one. Plants look well on arches and pillars, as well as on walls. If properly trained at first, it soon forms a grand bush in the open parts of the garden, and looks charming when pegged down in borders near paths. It is a very hardy variety. One large specimen we know withstood very severe frosts for nearly twenty years in the North Midlands without being damaged and without any protection being afforded. The large white flowers, very pure, are borne in clusters, and are shown to great advantage by their setting of deep green leaves, which remain on the branches a long time.

Planting Fritillaries.—Some of the Fritillaries may perhaps be classed among the plants that are looked upon as more curious than beautiful. At the same time, the well-known Crown Imperial (Fritillaria imperialis) is one of the best of our garden plants, and is excellent for the shrubbery or on the margins of beds of shrubs. The dwarfer ones from Asia Minor, such as F. citrina, F. Whittallii, F. aurea, F. armena and others, are excellent for the rock garden. The Snake's-head (F. Meleagris), which is occasionally found wild in this country, and its varieties are ideal subjects for naturalising in grass, and give a very charming effect with their mottled, drooping flowers. Bulbs of all should be planted now.

A Valuable Viola.—What a charming, free-flowering plant is Viola Papilio, bearing in great profusion the whole summer through its beautiful flowers, which are of various shades of blue, and look like so many butterflies flitting in the wind. It is often called a variety of V. cornuta, but why it is rather difficult to say, for it certainly bears no resemblance to that well-known species as far as the appearance of the flowers is concerned, and that is undoubtedly what one would go by in this case. After all, it is immaterial what its history may be; it is quite a gem for the garden. It can be readily raised from seed, and if sown now would produce good plants that would flower all next summer, or it may be sown in the spring, when it would commence to flower later.

Delphinium grandiflorum Cineraria.—The type of this beautiful plant is fairly well known, and is very attractive when grown in masses; but where possible the variety Cineraria should be procured, for its intense blue spikes are most conspicuous. It is unlike many Delphiniums on account of the flowers being upright, and entirely devoid of the spur which is characteristic of the majority. The spikes are produced from June to September, and they come tolerably true from seed, although, as most growers are aware, a slight variation will be evident from a large batch of seedlings. They grow from 18 inches to 24 inches high, and will thrive in any ordinary garden soil. We recently saw a fine batch in a nursery, and were impressed by the beautiful effect produced.

Pretty Floral Combinations.—Some uncommon, yet at the same time extremely pleasing, floral combinations are to be seen in Battersea Park, whose long-standing reputation for the excellence of its summer bedding is this season well upheld. Numerous striking effects may be noted, and of them the following appeal strongly to many: A bed of splendid examples of the rich-coloured Lobelia cardinalis Queen Victoria, alternated with standards of Veronica Andersonii variegata. Mixed throughout the bed are a few examples of the charming blue Salvia patens, the whole being edged with a bright blue Lobelia. An extremely mixed yet charming arrangement is a bed carpeted with a mauve-coloured Viola and edged with Fuchsia Golden Treasure, pegged down. Dotted over the Viola are standard plants of Veronica Andersonii variegata and fairly tall examples of Heliotrope, Gnaphalium microphyllum and Fuchsia Andenken an Henrich Henkel, this last being in better condition than one often meets with it. As a contrast to these mixtures is a bed solely of Pelargonium Galilée, both dwarf plants and tall standards being used.

CORRESPONDENCE.

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

Outdoor Figs.—To grow these satisfactorily outside, the roots must be restricted. They should be first potted into 12-inch pots and plunged below the rim of the pot, the hole in the bottom being previously made larger for the roots to get through. They are here plunged in a narrow border 3 feet wide and 18 inches deep and trained on a south-west wall, and the sun at this time of the year does not reach them till noon. They are now ripening a fine crop of good-sized fruit, the variety being Brown Turkey, planted three years ago. In such a dry summer as this they take an abundance of water. Neither is it necessary to cover them up in winter. Excellent fruit may be had from trees on an east wall fully exposed to the weather.—A. B. WADDS, *Englefield Gardens, Reading.*

A Good Bedding Rose.—I am greatly indebted to those readers who have so kindly given their experiences with Rose Irish Elegance in your last two issues. I am now sending you a photograph of what I consider to be the finest bedding or garden Rose of recent introduction, viz., Lady Alice Stanley. The photograph was taken about the middle of August, and therefore shows a bush bearing its second crop of flowers. Ever since the third week in June this bush has not been without blooms, and as these are large, of good shape, erect and fragrant, they are always admired. The colour is silvery pink, with the reverse of the petals glowing soft rose. The bush has an ideal, compact habit, and the large, tough, leathery leaves appear to be quite mildew-proof. Perhaps other readers will kindly relate their experiences with this Rose, and name what they consider to be the best bedding Rose introduced during the last six years.—A. B. ESSEX.

Humea elegans as a Bedding Plant.—This Australian biennial is now frequently used for bedding out during the summer months, and well-grown plants are, when properly grouped, very effective in the open garden. In this way, when fully exposed to light and air, the numerous feathery inflorescences acquire a much richer tone of colour than when they are kept in a greenhouse or conservatory. At Hampton Court, where this Humea is always well done, a large and very effective bed is planted with Cannas, above which tower a number of good examples of this Humea, sufficiently apart from each other to display the charms of each, yet near enough to form one harmonious whole. Seed of this Humea sown in the summer will furnish plants for the next year. They need careful watering, especially in the winter.—H. P.

ROSE LADY ALICE STANLEY IN A READER'S GARDEN. THE PHOTOGRAPH WAS TAKEN IN AUGUST.

Growing Spring-Flowering Bulbs in Fibre.—There are doubtless a large number of your readers who take great interest in this subject, and who, like myself, are not the possessors of a greenhouse and have to rely upon a sunny window to produce their flowers. The space there is naturally very limited, and will not permit very many bowls to be placed in the necessary sunlight. I recognise that growing bulbs in fibre gives excellent results for one year, but the bulbs are practically useless for the same purpose for a second time; therefore I know it will be no waste to spoil a bulb grown in this manner after the flower has faded, so, to counteract my want of space, I get two crops out of each bowl each season. I use bowls of rather large size, and plant good bulbs in the usual way as early as possible. My favourite combination is white Hyacinths La Grandesse and double Tulips Murillo. I plant the Hyacinths first, near the edge, and in between the Hyacinths, and also near the edge, I plant a Tulip. I also plant two or three Tulips in the middle of the bowl, but am careful not to overcrowd it. I grow them in the usual way, and in due time the Hyacinths come into bloom. As soon as they are past their best, I cut their stalks off level with the bulb, and level the fibre again to prevent them showing. By this time the Tulips, which are up to then slower in growth, are about an inch above the surface, but after the Hyacinths are cut away they develop much quicker, and in a few weeks come into bloom. I have grown a large number of flowers in this way, Tulips, Hyacinths, Narcissi, Daffodils, Crocuses, &c., but to my taste there is none to approach the exquisite beauty of a bowl of these Murillo Tulips, with their huge white and pink double flowers, which continue in bloom for quite a long time. There are other combinations which will readily occur to your readers, such as early Narcissi, Daffodils, &c., used in connection with this beautiful Tulip, but I do not wish to get a better one than that here mentioned.—HARRY P. BOYCE, *Bristol.*

The Musk Plant.—While the present expressions of opinion are being given concerning the scent of the Musk plant, it may not be inappropriate to call attention to a wider use of this beautiful old garden subject—I mean as distinct from the usual method of growing it in pots. This year it is being used in some of the parks as a groundwork for Clarkias, and about eighteen months or so back I recorded in THE GARDEN our use of Musk as a carpeting for a batch of Linum rubrum, which combination gave a very pretty effect. Apart from these two examples, I have never seen nor heard of it being so utilised. Somehow or other the method of cultivating the Musk has always seemed to belong to the flower-pot for the greenhouse or the window-sill. But, I am bold to assert, it is well adapted for a larger service in the outside garden, and this whether it possesses fragrance or not. This year we have a length of Musk bordering a row of Sweet Peas, and some between a few plants of Damask Roses, and in both cases the effect has been pleasing. Musk does best in a moist or partially-shaded position, and where such conditions can be observed it would make a good bordering subject besides its use as a carpeting plant as alluded to above. It further makes a suitable plant for masking rough, damp corners of rockeries. A word about the scent of Musk. What we have growing in this garden is not by any means so richly scented as was some we used to grow in a West of England garden a number of years ago. But what we have is faintly fragrant, as I have proved to-day (September 1) during a gentle rainfall. Is it not possible that there has got abroad a spurious type of Musk? I have little doubt but what the genuine old sweet Musk is still to be found in country cottage gardens or in the windows, where it is always prized and tended so carefully.—CHARLES TURNER, *Ken View Garden, Highgate.*

Matricaria eximea Silver Ball.—This attractive annual is a very fitting companion to M. e. Golden Ball. It possesses the floriferousness and compact habit of the latter, and is rather taller. With me it only attains a height of about nine inches. I have, however, seen it in another garden this summer, and it had there attained a height of some fifteen inches. This is all the more curious as the seed was supplied by the same firm (a leading one), and my neighbour's plants were not shaded in any way; nor were they, to all appearance, grown in richer soil than ours. As I intend to use this plant in a colour-scheme next season, I would be glad if some of your readers would say what height the plant attains with them. For the benefit of those who do not know this annual, I should say that its colour is a creamy white.—CALEDONIA.

Rose Etoile de France.—In reply to Mr. C. Lemesle Adams, whose query appears on page 442 I have grown Etoile de France from the first, and largely, too. It has always come good here late in the season, and I invariably write and speak as I find. Looking over a number of Rose lists, I find none which complains of it in any way. It partakes of both parents—Mme. Abel Chatenay and Fisher Holmes—and although rather a bad opener in very wet or cold weather, we have many others much worse in that respect. Mine are upon the Briar stock, and in an ordinary light loam. I find it best when not overfed, and perhaps your correspondent might do better if he follows this hint. He is the first and only Rose-grower who has hinted to me that Victor Hugo was "not a thoroughly good doer." What say others?—A. P., *Uckfield.*

Colour Combinations.—Two flowers of very different orders and character are these I am now thinking of, yet they formed one of the daintiest and most charming combinations it is possible to imagine. In front of a large bed of dwarf Lavender were planted, fairly thickly, pink Rhodanthes, these latter, now flowering, not being quite so high as the Lavender. As one walks up to these beds from a distance, the effect is simple and exquisite. The soft daintiness of the rosy pink blends admirably with the hazy Lavender, and the whole seems carried beyond until lost in misty blue. Such is the poetry of colour; to another it may seem nothing more than a pinky blue. Yet another, this time decidedly more pronounced, the colours more vivid, less dainty, but not less charming, an excellent strain of Nemesia strumosa, with all the varied colours of this splendid annual. Planted in early June, being used as a groundwork, just a few seeds of Nigella Miss Jekyll were scattered broadcast after the planting. These have now opened a few flowers, just one here and there, and nothing could be more suitable as a setting to the blue, surrounded by the Fennel-like green, than the golden variedness of the Nemesia. Last year I saw a beautiful blending of Heliotrope and Musk. The Musk was the groundwork, and was finely flowered. Above the yellow were shapely plants of the common Heliotrope dotted over the whole bed, with just sufficient low standard Heliotropes of the same variety to carry the whole into a billow of perfect harmony.—H. R.

The Best Bedding Roses.—I agree with Mr. Adams in your issue of September 6 regarding Etoile de France. I cannot think how "A. P." could recommend such a Rose. I grant at times it is superb, but generally it "blues" so badly as to quite ban it from our gardens, at least in any quantity. A far better variety would be Château de Clos Vougeot, although somewhat erratic in growth, a fault that could be remedied in a few minutes by the aid of some unobtrusive sticks. What a glorious colour it is, and never a sign of burning, be it glaring hot for days. Another splendid dark Rose is François Coppee, a Hybrid Perpetual, but very free. I saw this very fine in the Public Rose Garden at Lyons last May, and M. Pernet-Ducher informs me it was one of the parents of Château de Clos Vougeot. Another fine dark Rose will be Edward Mawley; although somewhat inclined to "blue," yet it opens freely, and one can readily remove the oldest flowers. As regards scarlets, I should place Mrs. Edward Powell or Leuchtfeuer far in front of George C. Waud, which cannot be called scarlet, and, moreover, its growth is not always reliable. I have no fault to find with the yellows, excepting that "A. P." has omitted four of the best, viz., Lady Hillingdon, Jeanne Philippe, Melody and Paula. Then, again, who will want Mrs. Sharman Crawford with its mildew tendency, when they can have such glorious Roses as Lady Alice Stanley, Margaret and Countess of Shaftesbury? Why Mme. Abel Chatenay was omitted I cannot conceive. By judicious pruning and partially pegging down one or two shoots it cannot be surpassed as a pink bedder, and Mme. Segond Weber is far ahead of Killarney.—DANECROFT.

Influence of Artificial Manures on Vegetables. Speaking about our Celery the other day, my employer remarked that a friend who had called a few days previously had told him that he grew all his Celery without the help of animal manure, but relied entirely on artificials, such as superphosphate, &c., because he found the quality of the Celery was much superior when the animal manure was omitted and only artificials used. This statement quite upset all our previous ideas on this matter, it having always been our opinion that instead of improving the quality of vegetables, the use of artificials always had a detrimental influence on their quality. We are quite aware that such manures very considerably increase the size and bulk of many crops, but that is an altogether different matter from the quality. Further, it has been our experience that the use of artificials has an adverse influence on the keeping properties of many vegetables, especially Onions, which will rarely keep till February if they have been subjected to liberal doses of artificial manures during their period of growth. In agriculture, too, we are all familiar with the baneful influence on the quality of hay which has been treated with nitrate of soda. Potatoes also often suffer from the same cause, and we are afraid many garden vegetables are also injuriously affected by a too generous application of chemical manures. One great danger lies in the ease with which it can be applied, as a few handfuls of concentrated manure can so easily be scattered, whereas a similar number of barrow-loads of animal manure requires more muscle to get it incorporated with the soil. However, we would be glad to know the views of some of your experienced correspondents on this important point.—W. L.

FORTHCOMING EVENTS.

September 22.—National Chrysanthemum Society's Executive and Floral Committees Meeting.

September 23.—Royal Horticultural Society's Meeting and Vegetable Show.

September 24.—North of England Horticultural Society's Show at Kendal (two days).

September 25.—Royal Horticultural Society's Show of British-grown Fruit (two days).

September 26.—Annual Conference of Affiliated Mutual Improvement Societies at the Royal Horticultural Society's Hall, Westminster.

THE ROSE GARDEN.

THE BEST WHITE ROSE FOR BEDDING.

IN reference to the note by Mr. H. E. Molyneux on page 413, have those of your readers who have hitherto been disappointed with Frau Karl Druschki as a bedder ever tried the plan of annual lifting? With me it is a great success, and I still think it the best of all the snow white Roses for massing. The plants should be lifted early in November, their roots trimmed back, and also the growths shortened to about two feet, then replanted in the same position or in a new place if preferred. Do not over-manure this Rose and there will be a glorious display of bloom next summer. Of course, it is best to do this lifting right from the commencement; that is to say, after plants have been established twelve months, lift them again; but it may be carried out even with plants established three or four years. Another important point is to secure the plants on the seedling Briar stock. The Manetti is a hateful stock, for it and the Briar cutting produce the growths far too rank.

Apart from Frau Karl Druschki there are no pure white Roses to surpass Mrs. Herbert Stevens and Molly Sharman Crawford, and after due consideration I give my preference to Mrs. H. Stevens. It is true it is inclined to droop; but in late summer the plants send up grand basal shoots that are fairly erect. There are numbers of Roses that have a white effect in the mass, such as Mrs. D. McKee, but they are not pure white, and there is still room for a good snow white bedder. I think we have it in Messrs. S. McGredy's Florence Forrester. This is a grand Rose as I saw it at Portadown recently, and, I should say, far superior to Mrs. Andrew Carnegie in texture of petal. In spite of Mr. Molyneux's remark about Sunburst, I would advise all your readers to have it, for it is a "great" Rose, and if it gives some whitish flowers early, are they not of exquisite form and substance? I have just cut a bloom of Sunburst from a shot-out bud of this year's working that rivalled any golden Rose seen this year, and this not of my own opinion, but of many experts who saw the bloom. W. E.

SOME GOOD LATE-FLOWERING, DARK-COLOURED ROSES.

WITH the present abundance of light-coloured Teas and Hybrid Teas, also such grand autumnal pinks from the Hybrid Perpetuals as Mrs. John Laing, Mrs. R. G. Sharman Crawford and the invaluable white Frau Karl Druschki, we are in need of a few extra dark flowers as a complete contrast. The following are half-a-dozen varieties that I can confidently recommend for late use, although all of them are also good throughout the season. Victor Hugo will take a lot of beating for many years to come yet, and it has been with us almost thirty years (1884). A very glowing and brilliant crimson, shaded with maroon and purple. Always of good form, holds its foliage well and thoroughly appreciates liberal treatment. This is quite one of the best from the many good Roses M. Schwartz has given us. Ben Cant favours this variety rather, but is not so deep and clear in its maroon shadings. It is, however, a much stronger grower and very sweetly scented, also a gold medal winner. Fisher Holmes has been a prime favourite of mine for many years. It was given to us as long ago as 1865, and only the other day one of the greatest Rose-growers asked me what

could beat it as an all-round dark variety. A very beautifully-formed flower, both early and late, sweet scented, a capital grower, and one that lasts well. Mme. Victor Verdier is another old friend of mine (1863). A clear crimson of beautiful form, exquisite perfume and always a good autumnal sort when well established. These four belong to the Hybrid Perpetual section, and when grown upon the Briar stock in any form are to be preferred as late bloomers to plants upon the Manetti or on their own roots. J. B. Clark, a gold medal Hybrid Tea, comes better in the autumn than at any other time with me. It is a large, well-formed flower of the deepest scarlet, shaded with blackish crimson and carrying a rich, Plum-like bloom upon the petals. A very vigorous grower and quite distinct. Château de Clos Vougeot is a free but rather erratic grower. Flowers a deep velvety scarlet of great intensity, shaded with a clear, fiery red. As the bloom ages it comes a dark velvety crimson and maroon. The best dark Rose to stand sun that I am acquainted with. It never burns. A. P.

GRAFTING TREES AND SHRUBS.

WHILE most trees and shrubs thrive on their own roots, and may be propagated by seeds, cuttings or layering, there are a few which, for various reasons, it is necessary to bud or graft. This is particularly the case with varieties which do not produce seeds, or do not reproduce themselves true from seeds even when seed ripens. Waterer's Scarlet Oak, Quercus coccinea variety splendens, may be cited as an example. This also will not root from cuttings, and as layering requires ample material to peg the layers down, the usual method of propagating this and other Oaks is by grafting. While every gardener should be thoroughly conversant with the art and craft of grafting, it is possible to carry the practice too far, *e.g.*, to graft good sorts of Lilac, using the Privet as a stock, when layering forms a ready means of increasing them, and they will also root from cuttings. In Continental nurseries, grafting is a very popular method of propagation, it being, in many instances, a more rapid method of increase than either cuttings or budding.

In large tree and shrub nurseries, grafting under glass proceeds almost without interruption throughout the year, with, of course, a very busy season from January to April. This is not surprising when we consider the vast number and great variety of trees and shrubs grown in a representative collection.

THE RHODODENDRON AND OAK GRAFTED AND TIED IN POSITION.

A RHODODENDRON STOCK PREPARED FOR GRAFTING IN A POT, WITH UNPREPARED SCION ON THE LEFT AND PREPARED SCION ON THE RIGHT.

AN OAK STOCK ON THE LEFT, WITH THE SAME CUT DOWN READY FOR GRAFTING ON THE RIGHT. THE SCION IN THE CENTRE IS PREPARED READY FOR FIXING TO THE STOCK.

Under glass also the proper period for grafting is more or less elastic within a reasonable time, and can be done when sufficient wood is available for scions, which is generally the most important consideration with new trees and shrubs. The month of September and early October are preferred by many growers to early spring for grafting Oaks, a larger percentage of successes being obtained. The Oak or Quercus family is such a large one that no one kind of stock can be found to suit them all. The common Oak, Quercus pedunculata, is, naturally, largely used; but for the American Oaks, the Red Oak, Q. rubra, is more suitable. Then, for the evergreen species and varieties, the Holm Oak, Q. Ilex, or the Turkey Oak, Q. Cerris, should be used.

A few Rhododendrons graft more satisfactorily in autumn than spring, notably R. campylocarpum and its hybrids or varieties. In the case of new and scarce sorts, some of the young growths made during the past summer may be utilised, and a period of six months gained. The common purple Rhododendron, R. ponticum, is the stock usually favoured, though, if available, the variety Cunningham's White may be employed. For the more tender indoor sorts, the Himalayan species, R. arboreum, is used. To graft a large percentage of stocks successfully is no mean undertaking. In addition to a sharp knife, a suitable stock and scion, it requires considerable skill, which is only obtained by practice, to cut and fit the stock and scion together correctly, afterwards tying them in. For grafting under glass, the stocks should have been potted up some time previously, and be established in the pots. The scions should only be taken from healthy trees. There are several styles or methods of grafting, two of the most important —splice or whip grafting and side-grafting—being illustrated. It is desirable to have the wood of the stock and scion about the same size; but when this cannot be secured, the scion must be placed on one side of the cut, so that the cambium of both stock and scion comes in contact on one side. If a small scion be placed in the centre of a large stock, no union can take place, as the inner woods never unite. In the large illustration an Oak stock is shown suitable for grafting, and a second with the top cut off, or headed down (to use a familiar phrase), ready for splice-grafting. The style of grafting illustrated in the case of the Rhododendron is known as side-grafting. In this the scion is placed on the side, leaving a portion of the growth of the stock to draw up the sap. This method is also adopted for Oaks, being quite as satisfactory as the splice or whip grafting, and is even more successful when the scion is smaller than the stock. After fixing in position, tie the stock and scion firmly with raffia or other suitable material. To hold the scion in position more securely, particularly when it is smaller than the stock, a little tongue is made at the base of the cut on the stock, into which the bottom of the scion will fit. Under glass, in a close frame, it is not necessary to use grafting wax or clay to exclude air from the union

and prevent loss of moisture. It is very desirable to place on the graft as soon as the stock is cut, and not allow the sap to dry. In due course it will be noticed that a "callus" is forming round the edge of the scion where it touches the stock. The tying material must then be removed and retied less tightly. A considerable number of conifers and Yews are also grafted in autumn, the general rule being to use the common and easily-grown species of the genus as a stock for the rarer species and varieties.

THE FLOWER GARDEN.

THE CAMPANULAS OR BELL-FLOWERS.

(*Continued from page* 446.)

C. caucasica.—According to the late Mr. George Nicholson, this is distinct from C. sibirica, to which C. caucasica is referred by the "Index Kewensis." Probably the real C. caucasica appears in a recent catalogue as a new plant. It should be between six inches and nine inches high, and have blue, drooping flowers in small clusters in July. Loam, sand and grit, or the moraine or wall.

C. cenisia.—Everyone who has tried this admits that it is a troublesome species, though charming in June with its open cups of brilliant blue. It comes near C. Allioni, and is a plant for the moraine. It is lovely there, as those who have seen Mr. Reginald Farrer's plants can well testify.

C. collina.—One of the best of its class and taking after C. barbata, but differing in its free growth and perennial nature. The absence of the beard makes it less attractive than C. barbata, but in other respects it is better. The large bells, opening in May or June, are of a fine violet blue. It is about a foot high, and can be grown well even in the border in ordinary soil.

C. colorata.—I am not aware that this Campanula is in commerce, but it seems to matter little, as it is only half-hardy. It comes from the Sikkim Highlands, and has its blue flowers in terminal and axillary racemes.

C. cristallocalyx.—This is practically a poor form of C. persicifolia, only included among the rock species because it is often offered as such. I see nothing in it to recommend. The flowers are small and the plant not worth growing. June and July.

C. Cymbalaria.—A scarce and neat June-blooming alpine species about six inches high, with pleasing blue flowers. Suited for the moraine or the dry rock garden. Division or seeds.

C. dasycarpa.—Another rare little Campanula some four inches or so high, and with pretty blue flowers in June and July. A moraine or rock plant for leaf-soil and sand. Seeds or division.

C. Elatines.—A very charming little Bell-flower, some six inches high, with branching stems of starry blue flowers from June to August. Sunny crevices or the moraine. Division or seeds.

C. elatinoides.—This much resembles the foregoing and blooms at the same time, but is taller. Both are very attractive to slugs, and are difficult subjects save on the moraine.

C. Erinus.—Authorities agree that the true C. Erinus is a poor annual, but the plant known in gardens as such is a dainty little June and July flowering, dwarf garganica-like species, but infinitely more refined. It has pleasing blue flowers. There is a lovely white variety, albus. Division. Best in dry rockeries, moraine, or wall.

C. excelsa.—This is a queer little dwarf Bell-flower only a few inches high, and having little flowers, opening in June, which look as if a bit had been eaten out of each segment. It is a troublesome plant except in the moraine, and nowhere does it seem to thrive so well as at Wennington Hall, where Mrs. Saunders has it in moraines with good soil beneath. Division or seeds. It hates lime.

C. fragilis.—This is one of the same class as garganica, grows about six inches high, is of trailing habit, and has pretty light blue flowers from June onwards. It is pleasing in the rockery, moraine, or wall. The white form, alba, is very charming. Division.

C. garganica.—Several Campanulas, all blooming from June onwards, might well be included among the forms of C. garganica, such as C. Erinus of gardens, which by some is called C. g. compacta. The type has glossy, crenated leaves and blue flowers. Alba is a white variety. Hirsuta and h. alba are forms with pubescent stems and leaves, and less troubled by slugs than the others. Dry rockeries or the moraine or wall. Division, or seeds in the case of the type. C. fenestellata, pale blue, looks like a form of C. garganica.

C. G. F. Wilson.—This hybrid, between C. carpatica or C. turbinata and C. pulloides, is represented by two forms, both with deep blue semi-pendent flowers. One has yellow and the other, and better variety, green foliage, and they were raised in the same garden. They are only a few inches high and like a gritty soil in the border, rock garden, or the moraine. A little bone-meal is beneficial. Increased by division. June. S. ARNOTT.

(*To be continued.*)

ROCK AND WATER GARDEN.

SHRUBS FOR THE ROCK GARDEN.

IN submitting the following list of shrubs suitable for growing in the rock garden, there are many excellent shrubs omitted, as well as some included which may not meet with the approval of the readers of THE GARDEN. Possibly others will send lists or state their views regarding the most suitable subjects for this important phase of rock gardening, and thereby help to bring before the gardening public the best selection of plants for the purpose under notice. Few will question the propriety of associating shrubs with alpines, not only from a spectacular point of view, but also for the beneficial influence they have upon the alpines themselves. They afford just that amount of shade so necessary to the welfare of many, as well as providing a measure of protection which may sometimes be the means of tiding a tender subject safely through the winter. And then they add very considerably to the general appearance of the rock garden, imparting a finished and graceful look to what might otherwise appear naked and bare. Drip is, of course, inimical to the welfare of all alpines; consequently every care must be taken when planting shrubs to so place them that they will not overhang the rock plants. A great deal depends on the size of the rock garden in making a selection of shrubs, as many that are suitable for a large rockery would look quite out of place in one of smaller dimensions. This can to a great extent be obviated by a judicious use of the knife, as the majority of the shrubs included in this list bear pruning quite well; in fact, are benefited by it. Many of the species mentioned contain numerous beautiful varieties, which space

CAMPANULA GARGANICA HIRSUTA, A USEFUL VARIETY FOR THE ROCK GARDEN.

forbids enumerating in detail. The original list totalled eighty-nine species and varieties, and as this had to be reduced to fifty, many beautiful shrubs necessarily had very reluctantly to be scored off. Regarding those enumerated, the greater number are grown for the beautiful flowers they produce, while a limited number are cultivated exclusively on account of their handsome foliage. Among the latter the Acers occupy a prominent place, their finely-cut and beautifully-tinted leaves making them indispensable, while Enkianthus japonicus, Rhus Cotinus and several others produce charming leaf-colouring in autumn. I have endeavoured to include in the list of flowering shrubs those varieties that will, as far as possible, extend the flowering period throughout the greater part of the year. Such precocious species as Andromeda floribunda, Daphne blagayana, Erica carnea and Forsythia suspensa open their blossoms before the snows of winter have melted; while late autumn is made gay with the handsome snowy plumes of Hydrangea paniculata and the purple spikes of the Buddleias, such as Veitchii and magnifica. In addition to the flowering shrubs, I append a list of twelve dwarf evergreens, which will be found especially interesting during the winter months, when the majority of the others have shed their foliage.

Fifty Suitable Shrubs. — Acer palmatum (various), Andromeda (various), Arctostaphylos Uva-ursi, Azaleas (various), Berberis (various), Bryanthus empetriformis, Buddleias (various), Cistus (various), Comptonia asplenifolia, Cotoneaster (various), Cytisus (various), Dabœcia polifolia, Daphne (various), Deutzia (various), Enkianthus japonicus, Ephedra distachya, Erica (various), Escallonia langleyensis, Eucryphia pinnatifolia, Forsythia suspensa, Gaultheria procumbens, Genista (various), Helianthemums (various), Hydrangea paniculata grandiflora, Hypericum (various), Iberis (various), Kalmia (various), Lavandula spica, Ledum Lyoni, Linnæa borealis, Magnolia grandiflora, Muehlenbeckia nana, Olearia Haastii, Philadelphus (various), Pernettya mucronatus, Polygala Chamæbuxus, Rhus Cotinus, Robinia hispida, Rosmarinus officinalis, Salix (various), Santolina incana, Skimmia japonica, Spartium junceum, Spiræa (various), Rhododendron (various), Tamarix hispida, Thymus (various), Vaccinium Vitis-idæa, Veronicas (various) and Weigela (various).

Twelve Evergreen Shrubs.—Cupressus lawsoniana filifera glauca, C. nana, Juniperus chinensis aurea, J. hibernica, J. japonica aurea, J. tamariscifolia, Retinospora filifera aurea, R. obtusa alba, R. o. nana aurea, R. plumosa argentea, Thuya occidentalis minima and T. o. pygmea.

Ochilview, Bridge of Earn. WILLIAM LITTLE.

A DWARF OX-EYE DAISY.

CHRYSANTHEMUM PALLENS.

THE large and beautiful forms of the Great Ox-eye Daisy, C. maximum, are well known in every garden on account of their value as border plants and the beauty and elegance of their flowers. Chrysanthemum pallens, the plant here illustrated, belongs to the same group, but it is of a more perennial character. Unlike C. maximum, which is a short-lived plant, this species, which is found over the greater part of Middle and Southern Europe, comes up year after year and flowers freely. It has been in the same position and undisturbed for many years. Compared with the other, the flowers may be a little smaller, but what they lack in size is made up for in elegance and number. It is quite a desirable plant for the rock garden, especially when grown in poor soil so that there is no chance of it growing too luxuriantly. It is of erect habit, the flowers being held up well on stiff stems, a great advantage when used as cut flowers. The members of this large family are mainly border plants, few of them being of sufficiently neat and attractive habit for the rock garden. One of the smallest is the Marguerite of the Alps, C. alpinum, a dainty little plant with a cushion of foliage and pretty white flowers throughout the summer. It grows well in poor, stony soil well supplied with moisture, but the slug is its greatest enemy, and many failures with this plant are due to its ravages. W. I.

THE DWARF BUT LONG-LIVED OX-EYE DAISY, CHRYSANTHEMUM PALLENS.

SAXIFRAGA BURSERIANA.

DOES IT NEED SUN OR SHADE?

A LONG and hearty controversy raged, it may be remembered, in THE GARDEN last spring over the shade-loving propensities of S. burseriana. From that controversy I desisted, after a long letter from Mr. Clarence Elliott (to whom I must, it seems, apologise for saying I "took" him to see S. burseriana; let me now, then, with equal truth and greater decency, say that I had the delightful honour of escorting him). I desisted, not from any lack of matter for reply, but because I am humble-minded; and where that great and good man so firmly puts down his feet, I know there is little room for humble ones to tread. None the less, I nursed a belief that my memory was at least as solid on the point as his. Accordingly, I lay low till occasion offered, and then returned for confirmation to the Salurn Klamm, by the very same train which took me and Mr. Elliott there.

The result of all this, then, is that I am able serenely to repeat my original proposition. After a certain amount of sun in the morning, the whole of the Salurn Klamm is in the shade of its great walls for the rest of the day. The sunshine which Mr. Elliott remembers was evidently (as he so sweetly suggests) only that due to my own presence—a most pleasant testimony to my photophoric powers. On the further point of the soil there inhabited by S. burseriana, Mr. Elliott must really revise his notions of "scree." Let him return to culling Thlaspi limosellæfolium in the Haut Boréon to revive his memory of that delicious compound. S. burseriana, in the Salurn Klamm, is growing in a dense limestone silt (I have said this before; I now say it again, because it *is* so) which at its coarsest only amounts to fine gravel, but is usually of a packed consistency and minuteness, scattering in a spray of whitish particles as up comes a plant.

Finally, I must say, for my own part, that S. burseriana itself, in my garden, declares the whole discussion to be rather idle. Mr. Hornibrook (I think it was) so rightly protested against the vain pedantry of trying exactly to copy natural circumstances under the altered conditions of the garden. All one can say—all, at least, that I will positively say—is that S. burseriana has the very strongest objection to being parched or frizzled. Apart from that, if the plant has an adequate supply of water, overhead, underground and in the air, I do not here find the slightest difference, either in health or floriferousness, between specimens grown in shade or in the fullest sun. The shadow of a great rock would, no doubt, much avail it in a thirsty land; but sound drainage, a light,

limy loam (with chips and rubble) and a position securing it from being baked beyond endurance, should surely go far towards ensuring the prosperity of this really very easy-going and happy-natured plant. Indeed, I find it hard to understand the halo of doubt and difficulty that seems to encompass S. burseriana in the minds of cultivators. Can it, perhaps, arise from excess of precaution—a vicious circle, care begetting failure, and failure care? I have seen so many sad and sickly burserianas, cossetted as the apple of a one-eyed gardener's eye, yet all the more moribund and decrepit in their special pocket or particular fat, hard mixture of soil. But I believe, from watching the plant and collecting its very fine roots, that freedom is its essential want—a quite light, loose mixture of loam and lime and rubble, with perfect drainage down below and a sufficiency of water for its roots. Procure it these, then I would almost premise that in most parts of the country S. burseriana could boldly be packed into any sort of reasonable place with no more regard or fuss (and all the better without it), and there stay forgotten until its astonishing eruption of white moons recalls the plant to your memory in the darkest days of the year. REGINALD FARRER.

TREES & SHRUBS.

A BEAUTIFUL WALL SHRUB.

CEANOTHUS THYRSIFLORUS.

CEANOTHUSES are becoming more and more popular among flowering shrubs for clothing bare walls. The flowers are not large, it is true, but this is more than compensated for by the great profusion of inflorescences bearing small flowers. There is a well-known variety of Ceanothus azureus known as Gloire de Versailles. It is a most desirable wall plant, flowering in April and May. C. thyrsiflorus comes into flower a little later, and is seen at its best in the early days of June, when it forms a suitable companion to Wistaria multijuga for a wall or verandah, the two flowering together at that time. In the accompanying illustration this Ceanothus is seen trained on a sunny wall in Mrs. Godfrey Pearse's garden at Taplow, Bucks. The plant illustrated is some 25 feet or 30 feet in height, and it continues to grow and flower freely in this warm soil and sunny position. Most of the Ceanothuses are natives of warmer climes than our own, a fact that should not be overlooked at planting-time, although they often give a good account of themselves when grown in a northern aspect. A warm soil over a well-drained subsoil is necessary for the successful cultivation of these beautiful wall shrubs.

CEANOTHUS THYRSIFLORUS CLOTHING A WALL IN A BUCKINGHAMSHIRE GARDEN.

WHAT IS A FLORIST'S FLOWER?

(*Continued from page* 463.)

ONE generally forms some impression, right or wrong, of an author from his book; and after reading "Daffodils" I seem to gather that Mr. Jacob, while he looks for the advent of a dictator, would himself possibly prove a restive subject to the potentate he sighs for. The author of "Daffodils" has himself, I fancy, too catholic a sense of beauty ever to make a sound florist of the Glenny school. I have no doubt that Mr. Glenny could have given Mr. Jacob half-a-dozen excellent reasons for relegating Frank Miles to the refuse-heap; but one likes to think that Mr. Jacob could (and would) have given Mr. Glenny a round dozen of reasons for allowing that Daffodil to remain where it is in his border. Still, there can be no doubt that Mr. Jacob, when his judgment is at its least robust, has decided hankerings after the fleshpots. "Its round overlapping perianth," he says, speaking of Cossack, "and its beautiful deep red eye *are just what judges like to see at shows*," which would seem to imply that two standard features have been already fixed, and that, unless a flower shows a red eye and overlapping segments, capable judges will rule it out of court. Of course, it is not so, and let us hope it never will be so, but that judges when they enter a showroom will keep an open mind and allow every form of beauty its proper value. I myself can, I hope, as much as anyone admire broad, overlapping segments and a deep red eye; but I am not sure that the Daffodils I admire most have either the one feature or the other; indeed, I am pretty certain they have not. After all, what is there so inherently and exclusively beautiful in overlapping segments? Is it not conceivable that a star-shaped flower, in which the segments meet only at the base, might be just as handsome in its own way as Cossack? As an instance in point I would name that good old variety, Maximus, the perianth segments of which are relatively long, narrow, tapering and twisted, each of which characteristics, so far from being a blemish, is a beauty. To alter any one of them would be to change the flower for the worse. Maximus, of course, has no "deep red eye," but it has what is quite as good. I will cite Mr. Jacob fifty Daffodils the redness of whose eyes leaves nothing to be desired if he will name me half-a-dozen with the rich yellow body-colour of Maximus. I know only one—Santa Maria, a poor flower in all respects other than colour, and not in the running with Maximus. As for the much-prized red eye, it is not profane, I hope, to suggest that raisers are possibly overdoing their enthusiasm for the red eye. Still, I too have been in Arcadia, and know the thrill of the "red eye." I would fain hope, nevertheless, that no redness of eye, however brilliant, will be held to condone faults of form, colour and constitution, as in the case of that once (and possibly still) much-esteemed flower, C. J. Backhouse, which has a beautiful red cup, but is otherwise worthless. By all means let judges give full value to red eyes and overlapping perianth segments when they see specimens of these that please them, but equally let them refrain from creating cast-iron regulations as to the form of segments or the colour of eyes or other features in which the Daffodil displays such an infinite variety. Let us not, in short, kick the Daffodil upstairs.

But, after all, am I not vexing my soul without a cause? For I do not believe there are any florist's flowers nowadays—not as Glenny understood the term. Could that esteemed gentleman revisit the showrooms which in his life he so much adorned, he would be unpleasantly nonplussed and disconcerted to see how little is made nowadays of the flowers for which he drew up such a drastic code. Auricula-growers no doubt he could find, if he searched them out, who would show him flowers which he could recognise. But imagine the

consternation of the poor old gentleman could he have put in an appearance at the late Chelsea Show and seen the Tulips—the Cottage Tulips, the Darwins, the Parrots, and other Tulip profanities! "Where," he would ask in his obsolete dialect, "are the Bizarres and the Byblœmens?" And nobody except Mr. Jacob would understand him. I have no doubt Mr. Jacob would understand him; and he would lead the venerable shade to an obscure annexe, a sort of side-show, hidden away as if it were ashamed of itself, and there the ghost of the old florist would see a few, a very few, Tulips of the kind he used to know, lovely flowers, too, streaked and flamed and feathered according to the orthodox patterns approved in his day and generation. Then possibly (no doubt to Mr. Jacob's sensible relief) the spirit would ask to be taken to the Carnations. Peradventure, though they have outraged the Tulip, they will have spared the Carnation. So once again they make their way through the perspiring crowd, the subtle essence of the Glenny shadow flitting easily by the side of his conductor's substance, until they pause before the monumental display of Mr. C. Engelmann. Helplessly the perturbed spectre eyes the wilderness of blossom. These massive, leggy blooms are not the flowers for which erstwhile he formulated laws. Yet even the ghost of Mr. Glenny retains some spark of his terrestrial fire, and, bewildered as he is, the poor, disoriented shade can scarce forbear to clap his spectral palms: vases of Sunstar and Benora, banks of White Wonder and Pioneer, columns of Lady Northcliffe, waterfalls of White Enchantress and Electra! "Magnificent!" he mutters, "magnificent! But, you know, not quite according to Cocker! Where are the dapper little smooth-edged flowers on discs of white paper—the flakes and bizarres that once delighted Lord and Simonite? A glorious sight, my friend, though — but soft! methinks I scent the morning air; yet, ere I hie me hence once more to purging fires, one thing I'll whisper in your ear: Florist's flowers you no longer possess, nor florists either. Better things you may have, only not these, not as I knew them. Adieu, my friend, adieu. I'll see you by and by, when you have done with Daffodils!" SOMERSET.

THE NEW ASTER FELTHAM BLUE. A USEFUL VARIETY FOR THE HERBACEOUS BORDER.

THE KITCHEN GARDEN.

THE OUTDOOR MUSHROOM-BED.

THE present is a good time for the making-up of a Mushroom-bed in the open air. Many amateur gardeners think it is really necessary to have specially-constructed houses in order to be successful in the cultivation of Mushrooms. The latter may be easily grown in cellars and ordinary sheds, also in the open air, provided they are protected from the excessive rains and severe frosts by thick coverings of clean litter and mats.

A Good Position may be found on the north side of a fence, wall, or building. If the latter be high, of the height of a dwelling-house, build the bed quite 12 feet away from it to the north. Do not build directly under the branches of trees, as the water dripping on the bed will tend to chill it.

The Material and Size of Bed.—It is not necessary to have horse-manure solely. If half is horse-manure and half clean tree leaves, material of a gently-heating nature will be obtained. A fair quantity of litter should be left with the manure, as the latter is liable to burn through overheating if employed alone. The inclusion of tree leaves not only prevents too high a temperature, but steadies and prolongs it. Before the ingredients are put together to form the bed, they must be placed thinly on the floor of an open shed, or in the open air altogether if the weather is dry and fine, and thrown into a heap for two days prior to being laid in thin layers and well beaten down in the bed itself. A bed of useful size is one made on a foundation 3 feet 6 inches wide and 8 feet long. The height will be governed by the width, and should be about two feet six inches or so. Insert the lumps of spawn 2 inches deep and 10 inches apart every way all over the bed; then cover the latter with a layer of sifted maiden loam 2 inches thick, making the surface smooth with the back of a clean spade. Do not give any water, as the natural steam in the bed will provide sufficient. Cover with clean litter neatly put on a foot thick; then thatch the whole bed with straight straw laid on 2 inches thick. The cultivation of Mushrooms is interesting work, and is unlike the culture of any other garden crop. Mushrooms should appear in seven to eight weeks from the date of spawning, and when gathered in open weather care must be taken not to expose much of the surface of the bed at one time. Later on, beds may be made wholly of tree leaves where they are very plentiful. To commence with fertile spawn is just as important in the successful cultivation of Mushrooms as good seed is in growing flowering plants. Spawn should, therefore, only be procured from a reliable source, for after a while, and especially if not properly stored, the spawn loses its vitality. SHAMROCK.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Aster Feltham Blue.—The merits of this variety as a border flower are already recognised (see illustration). It is of medium height, of branching habit and profusely flowered. The flowers are of a pleasing shade of lavender blue. Shown by Messrs. T. S. Ware, Limited.

Salvia uliginosa.—An interesting species, native of the marshlands and river banks of Brazil. Despite its habitat, it is said to be a hardy perennial in this country. The flowers, somewhat sparsely borne in branching inflorescences, are of a clear azure blue. Shown by Mr. C. Turner, Slough.

Dahlia Inchmarnock.—This is one of the most pleasing of the Collarette Dahlias we have yet seen. The ray florets are salmon scarlet, and the inner florets of sulphur yellow. The flowers are small, neat and freely borne. Shown by Messrs. Dobbie and Co., Edinburgh.

Odontioda Seymouriæ Orchidhurst variety.—This is derived from the intercrossing of Odontioda Charlesworthii and Odontioda Bradshawiæ, and may be described as a fine scarlet form of the first-named parent, of excellent shape and substance.

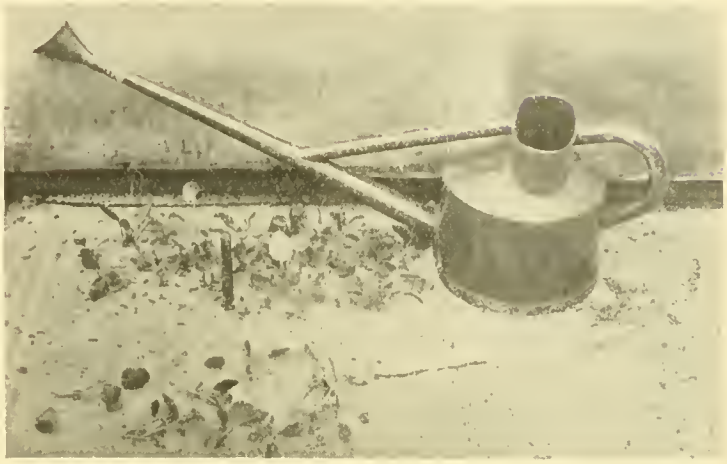
Lælio-Cattleya George Woodhams.—A fine hybrid obtained by intercrossing L. purpurata and C. hardyana. The sepals and petals are purplish magenta, and the large lip deep crimson. Both were exhibited by Messrs. Armstrong and Brown, Tunbridge Wells.

GARDENING FOR BEGINNERS.

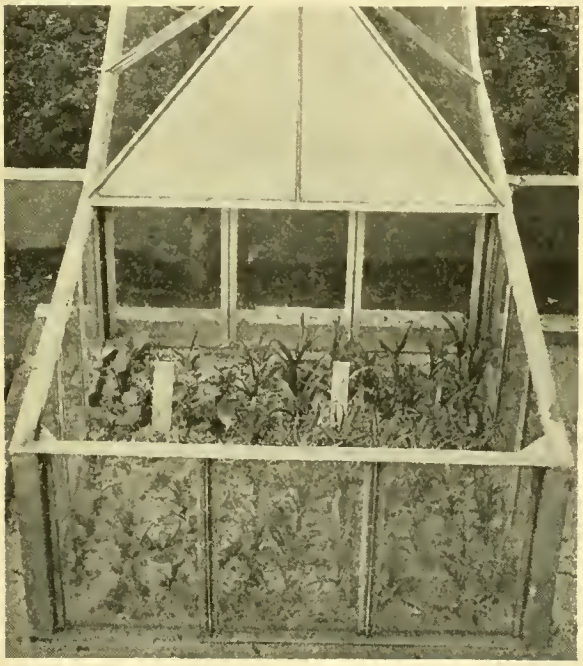
ROOTING CUTTINGS UNDER HAND-LIGHTS.

HAND-LIGHTS form an almost indispensable adjunct to every garden. The beginner will find them most useful to root cuttings of hardy and half-hardy plants. The usual sizes of the hand-lights are 15 inches and 18 inches square. The cloches used so much in French gardening may also be used for rooting cuttings of Pentstemons, Violas, Calceolarias and other similar plants, but they are not so handy and convenient as hand-lights.

The first item to consider is the preparation of a bed of sandy soil in which to insert the cuttings. Choose a warm, sheltered border as the spot on which to make the bed, to avoid the necessity of providing a large quantity of protection for the hand-lights during cold, frosty weather. Make the bed of sandy soil firm, and over it spread a thin layer of silver sand. Keep this dry, so that when a hole is made with a dibber and the cutting inserted, the sand will trickle in round the cutting and fill up the hole. Mark out the size of the bottom of the hand-light by standing the frame on the sand. The cuttings are more readily inserted before the hand-light is finally placed in position. Some hand-lights are made in two parts, a bottom and a top; these cost slightly more than those made all in one, but they are much more convenient. Having inserted the cuttings, stand the bottom of the hand-light over them, and give a good watering with a fine-rosed watering-can to settle the sand round the cuttings and prevent them flagging. Keep the frame close till the cuttings are rooted, shading whenever the sun shows signs of gaining power. As time proceeds the cuttings will root, and then air must be gradually admitted and the amount of shading lessened, finally dispensing with it entirely. It is not necessary to limit each hand-light to one kind of plant, Pentstemons, for instance. These, with cuttings of hardy Fuchsias and Veronicas, may be inserted in a single hand-light. Choose in all cases short-jointed, healthy shoots for cuttings. The length of the cuttings will depend a little on the kind of plant; cuttings of Violas, for instance, will not be so long as those of Pentstemons. An average length of 1½ inches to 3 inches is a convenient size. The distance apart is another elastic point which may rest largely with the grower; 2 inches apart in the rows and 3 inches between the rows of cuttings will suffice, but a little either way will not matter. When once inserted and covered with hand-lights, the cuttings will not require much attention beyond shading from sun. Examine them about once a week to see if water is required, and remove all dead and decaying leaves.



A BED OF SANDY SOIL, WITH SOME CUTTINGS PLANTED AND OTHERS READY FOR INSERTION.



CUTTINGS OF VIOLAS AND PENTSTEMONS PLANTED IN SANDY SOIL AND COVERED WITH A HAND-LIGHT. NOTE THE MOVABLE TOP.

Pentstemons.—The Pentstemon is essentially a plant for the beginner and the small grower with little accommodation. It is easy to propagate, and the plants thrive and flower freely in most soils and situations. Seeds and cuttings are the recognised methods of increase, the seeds being sown in a heated greenhouse during February or early March, and in a cold frame about July. Towards the end of September or early in October is a good time to insert Pentstemon cuttings. The race of Pentstemons most largely cultivated in gardens are hybrids, and comprise a considerable variety of colours. Anyone raising a batch of seedlings last spring will have an attractive display of flowers at the present time. It is worth while taking cuttings of the best of these, presuming the strain is a good one, for as a rule some of the seedlings almost, if not quite, equal the named sorts. Cuttings should also be inserted of the named varieties, as the old plants will only survive the winter outside in very favoured localities. A list of named sorts would serve no useful purpose here; they are so numerous that one can soon make a selection from a florist's catalogue. Three sorts, however, call for special mention, and should be in every collection. They are Crimson Gem, a very large, rich crimson-scarlet flower; Southgate Gem, bright scarlet blooms of medium size, produced in profusion, a hybrid between Newbury Gem and a large-flowering florist's sort; and Newbury Gem, a fine old Pentstemon producing an abundance of small red flowers. It is also known as P. Hartwegii. The making of the cuttings of Pentstemons and their treatment are similar to that afforded to Calceolarias and dealt with earlier in these notes.

Bedding Calceolarias.—For summer bedding the yellow and dark red shrubby Calceolarias are unsurpassed in the cottage and small suburban garden. Late September and early October is the season to insert cuttings to obtain plants for next summer's display. Dibbled in sandy soil 2 inches apart and covered with a hand-light, the cuttings will root and not require much attention till the end of February. Look over the cuttings once a week to remove damp and decaying leaves. Protect from frost with a covering of litter, Bracken, or the old stems of Michaelmas Daisies. When rooted, which will probably be in about six weeks, air must be gradually admitted by turning round the top of the hand-light a little, closing it up again on cold, frosty nights. Plenty of side growths suitable for cuttings will be found on most of the Calceolaria plants at the present time. Take off the shoots about three inches long, cut through the stem just below a pair of leaves to make a base for the cutting, removing two, or possibly four, leaves. As soon as inserted, water in and close up the hand-light. To obtain sturdy, bushy plants, the points or growing tips of the young plants should be removed in early spring. This will induce each plant to make two shoots, possibly more. Half-a-dozen of the best sorts are Golden Gem, rich yellow; Camden Hero, dark red-brown; The Sultan, very dark reddish crimson; Prince of Orange, bronzy yellow; Cloth of Gold, golden yellow; and Bijou, bronzy crimson. Calceolarias delight in a moist, fairly rich soil, and a half-shady border is preferable to one in full sun.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Propagation.—This is an operation that still needs attention, and ought not to be deferred too long, or some of the subjects may get touched by frost, when a good strike is much more difficult to secure.

Calceolarias.—The shrubby varieties, for bedding purposes, should be propagated from the soft growths springing from the base of the stem of flowering plants, and the softer they are, within reason, the more easily will they strike. They may be rooted in pots or boxes; but the best system is to prick them out, 2 inches or 3 inches apart, in a cold frame, using a light, open compost for the purpose, afterwards keeping them sprayed and shaded till the foliage becomes stiff and upright, when they may be treated a little more hardily; and as soon as well rooted they may be given plenty of air during fine weather.

Veronica Andersonii variegata and Marguerites are easily-grown bedding plants that may be propagated now, practically in the same way as advised for Calceolarias.

Lantanas are used a good deal for bedding purposes, and the various varieties root readily if nice soft cuttings are secured and placed singly in 2½-inch pots, using a very light compost. A little bottom-heat is necessary during the rooting period, and if fair-sized plants are desired for next season, the shelf of an intermediate house is a good place on which to winter them.

Chrysanthemums.—Many of the early-flowering section are now making a good show, and in districts which are low-lying and subject to early autumn frosts, some provision should be made for covering them. Pit lights, of course, are useful if placed well above the flowers, and will keep them in good condition for a long time. Tiffany stretched over them at night is also effective, but as this lets the wet through, the lights are to be preferred; or oiled paper, tacked over a light framework, acts almost equally as well. Plants that are to be lifted for flowering indoors should have the roots cut round at a reasonable distance from the stem, and if well watered afterwards and kept sprayed it will prevent them flagging. As soon as the roots commence to run again is the best time to lift the plants and take them indoors.

Plants Under Glass.

Violets.—Preparations should now be made for lifting and planting in the frames. In the first place, the frames should be filled to within a foot of the glass with a compost which is known to suit the plants in the particular locality, this varying in some instances from pure loam to pure leaf-soil.

Chrysanthemums.—By this date many of the earlier varieties will be showing colour, and if of the large-flowering section they should be housed at once, but not before all the foliage has been carefully syringed with a solution of sulphide of potassium to guard against mildew. Decorative varieties, such as Mary Richardson, Mrs. Roots, Heston Bronze and Soleil de Octobre, should also be placed under cover as the flowers show colour. By placing the plants indoors rather early, they sometimes fill up a gap after the outdoor ones are cut down, and, where used, make room for the mid-season and late varieties.

Browallia speciosa.—Though these will have done well up till now in a cool house, they are better for a little warmth from now onwards, an intermediate temperature suiting them well. A little weak liquid manure may be given to plants in bloom, and this should keep them going till well into the autumn.

Euphorbia pulcherrima plants are now well established in their flowering pots, and should be removed from the pit in which they have been growing to a suitable house with a temperature of from 55° to 60° at night. Keep them well sprayed on all fine days, and when the pots are well filled with roots, feed regularly with a mild manure, such as Clay's Fertilizer or a little blood manure, both of which I have found to suit them well.

Euphorbia jacquiniæflora.—Plants of this will take rather more heat than the preceding, and where they can be trained up the wires of a Melon-house they will ripen their wood well, which is very essential to get a good long spray of blooms.

Shading.—Much of the shading material may be left off now, only the more tender subjects requiring it during the hottest part of the day; but a sharp look-out must be kept if the sun comes out brightly after a few wet or sunless days.

The Kitchen Garden.

Turnips sown during the latter part of August should be thinned to a fair distance apart, so as to allow the foliage to become hard and not so easily damaged by frost. After thinning, hoe well, continuing the operation as often as necessary, so as to facilitate the growth.

Celery.—Continue the earthing of Celery as the weather permits, giving a good watering and feeding to the latest batch a day or so before commencing earthing. The midseason rows should be finished off carefully, so as to throw off superfluous moisture, especially where the soil is heavy.

Onions.—All Onions should be got under cover as soon as possible, the smaller bulbs being put where they can be bunched or tied in strings during wet weather.

Fruits Under Glass.

Strawberries.—Plants that are well rooted should be watered occasionally with liquid manure; but there is no need to try to get extra-sized crowns, as those that are of moderate size and well ripened, I find, give the best results. Where there is a tendency for the foliage to become mildewed, the plants should be sprayed occasionally with sulphide of potassium.

Vineries.—Muscat Grapes that are quite ripe and still have to be kept some time should be shaded from very bright sunlight. Air must be kept on at all times, but just sufficient heat must be kept in the pipes at night and on dull days to keep the air dry and circulating.

Very Late Grapes that are ripening should be kept a trifle drier, especially towards the evening, and the temperature not allowed to fall below 58° to 60°, though when quite ripe a few degrees lower will keep them in good condition.

THOMAS STEVENSON.
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FOR NORTHERN GARDENS.

The Flower Garden.

Propagating Calceolarias.—The old orange yellow Calceolarias of the aurea floribunda type are seldom seen nowadays. Lemon shades are still popular, however, and old amplexicaulis, Lemon Gem and Queen Alexandra are all well worth growing. A start should be made with the propagation of these within the next week or so. The first and last mentioned of the foregoing trio are not quite so hardy as some of the other varieties, so that if the frame in which they are to be wintered is not capable of being slightly heated in time of frost, ample protecting material will have to be provided.

Preparations for Bulb-Planting.—As annuals go out of bloom they should be cleared away, and the ground they occupied should be lightly dressed with decayed vegetable refuse or other manure, and then dug over to be in readiness for the reception of bulbs and other spring-flowering plants.

The Rose Garden.

Selecting Climbers.—We now have such a choice of high-class Roses in the Hybrid Tea section that fewer Roses are now grown on walls; but pergolas, pillars, arches and screen fences clothed with Rambler Roses are much in evidence, and so far as climbers are concerned, the ramblers fill the popular imagination at the present time. I will therefore confine myself to these at present. For pinks, those making a start cannot do better than plant Dorothy Perkins and Lady Gay, and for a white, White Dorothy Perkins is unsurpassed. Of red shades there is considerable choice. Among singles, Hiawatha is an easy first, but for an early bloomer Carmine Pillar is excellent. Among doubles, Crimson Rambler and Flower of Fairfield are both good. Purple East is an attractive semi-double pillar Rose. Among single pinks or blush, Blush Rambler and Euphrosyne are to be commended. Among yellow shades, Alister Stella Gray is the most accommodating.

The Rock Garden.

Colchicums.—These attractive autumn flowers are admirably adapted for the lower reaches of the rockwork, and those who possess them will be enjoying their beauty now that the bulk of the occupants are assuming a rather sombre aspect. Bornmuelleri, speciosum, speciosum album, Parkinsonii, autumnale roseo pleno and a. albo pleno are all worthy of inclusion.

Autumn Crocuses.—These, too, are excellent for brightening up the lower reaches of rockwork. I can only speak of a few of them, but can recommend longiflorus (odorus), speciosus and zonatus. Like the Colchicums, August is the ideal month for planting, but they can be planted with safety immediately after flowering.

Plants Under Glass.

Lilium longiflorum Harrisii.—Both this variety and the type are excellent for conservatory decoration, and for early work the bulbs should be procured and potted up as soon as convenient. Good results can only be had from strong bulbs, and it is bad policy to buy small, cheap ones. Loam, peat, sand, leaf-mould and rotten manure in a rather rough state form an excellent compost for Liliums.

Freesias.—The sooner these are potted up the better. Eight or ten bulbs in a 5-inch pot make a nice display. Use light soil similar to that recommended for Liliums, but in a less lumpy condition. Stand in a cold frame for a time.

Perpetual-Flowering Carnations.—Thrip is sure to appear, and must be kept in check by weekly fumigation until the flowers begin to open. Give abundance of air during the day, with a little overnight unless the weather is very cold.

Fruits Under Glass.

Pruning Early Peaches.—If the trees are completely defoliated, the sooner they are pruned the better. In the case of young, partially-developed trees, the first consideration should be the framework of the tree; but in the case of fully-developed trees, the work of pruning is comparatively simple, and consists chiefly of cutting away the shoot which has just borne fruit and the shortening of the succession shoot which has been laid in, and which is to bear next season's crop. Always cut back to a wood-bud, which is less plump and more elongated than a fruit-bud. The distance from one bearing shoot to another should be about a foot.

Late Figs.—In order to ripen off these satisfactorily, a night temperature of 60° to 65° will be necessary.

The Hardy Fruit Garden.

Preparations for Planting.—Where the planting of fruit trees is contemplated, some suitable soil should be got in readiness in which to give the trees a start. Nothing equals maiden loam, but it is often a scarce commodity. If, however, a quantity of it is procurable, it can be mixed with an equal quantity of road parings, which contain a considerable amount of fibrous material.

Late Stone Fruits.—In the event of frost occurring, any late, unripe Peaches or Plums must be protected with scrim or other light material.

The Vegetable Garden.

Celery.—Continue to earth-up Celery as necessary. Early crops that are receiving their final earthing-up should have the soil brought up to an apex, and it should be beaten with the back of the spade, making a smooth surface to run the water off.

Turnip-Rooted Beet should now be stored. Be careful not to break the roots, or bleeding will ensue, thus greatly spoiling the crop.

Autumn-Sown Onions.—The young seedlings are now well up. Run the Dutch hoe between the rows to kill the seedling weeds and aerate the soil. Weeds growing in the rows must be pulled with the hand.

Kidney Beans.—Store all the surplus yield in salt, as previously directed, before they become tough or get injured by frost. Steep the pods thus treated in fresh water for twelve hours prior to cooking them.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

DAFFODIL NOTES.

Poetaz Varieties.—The writer of the article on Poetaz Narcissi in the Bulb Number of THE GARDEN is not, I fear, very familiar with their history. Every variety mentioned in it was raised by Mr. R. van der Schoot. He has told me about the sudden thought that came to him as he was one day passing by some ornatus in his bulb-fields, and how he at once acted upon it, with the result that all those varieties mentioned, and some others as well, first saw the light of day—now a good many years ago—in his trial grounds at Hillegom. Jaune à Merveille is no newer than the others. It is more expensive, like Sunset, another very lovely yellow Poetaz, because it is such a slow increaser. It is a long time since I bought my first bulbs of this new race from Vilmorin of Paris, and then there was but little difference in the prices of any of them—I suppose because their powers of increase had not been sufficiently tested. Now they are known, and prices are fixed accordingly. Alsace, Aspasia, Elvira, Irene, Jaune à Merveille and Sunset are, in my opinion, the best half-dozen, the first three mentioned having white and the last three yellow perianths. Alsace is the best for early forcing, as it comes so easily and well. Irene is a much softer shade of yellow than either of the other two. I like it exceedingly as a pot plant. Jaune à Merveille, Sunset and Elvira have flatter perianths than any of the others, and on this account are useful for showing. Aspasia is the tallest and most vigorous, and a real everybody's flower. I must say, however, that in its native soil it has not that superiority in vigour and height which it has with me. As far as I know, the only Poetaz in commerce that has been raised by Mr. Engleheart is my favourite Orient, which has an undulating white perianth and a palish yellow cup with a clear red edge. All that I have mentioned are excellent both for pot work and for the garden, so much so that I have no hesitation in following up "A. B.'s" little notice with another puff of this important race.

Daffodils to be Grown in Pots.—Gardeners, like betting people, like "tips," only they do not get them quite so often; but when they do, let us hope they are more reliable. I quite thought there would have been a few about what to buy for pots in the Bulb Number. Directly I saw there were none, I wired off to the Editor and begged for a column in next week's edition. The time is getting on now, for potting, at any rate. Before these lines are read and the bulbs procured, it will be high time they were in. Last year I believe I "tipped" Firebrand. I know a lady who has bought some this autumn on my recommendation. If she has any luck at all, she will find I have "tipped" a winner. I have had it for the last three years myself, and it has never been found wanting. Blackwell is another beautiful variety that lends itself to gentle forcing very readily, always keeping a good shape and coming with a fair amount of colour in the cup. Weardale Perfection is more at home in the greenhouse than anywhere else. Now that it is procurable at about two shillings each, half a sovereign for a potful of five would be money well invested, and would bring a certain return in the pleasure it would give anyone who likes refined flowers. I could say almost exactly the same about Lady Margaret Boscawen, only it is just a little less *chic* and gives more idea of massiveness. Of King Alfred it is hardly necessary to speak. When Messrs. James Carter and Co. got hold of the selling of this wonderful flower, they knew what they were doing. In pots it has no rival among the big yellow trumpets, and I find with care in ripening under glass that pot-grown bulbs do not do so very badly a second year. Orphée is seldom seen in any list nowadays. I hope some firms still have it, for I consider it one of the most satisfactory pot red edgers that we have at a low price. Barrii conspicuus is not in it when flowers are wanted in early February. Lucifer is a good lasting plant under glass, and the colour is retained pretty well until the end. I strongly advise a trial. The Leedsiis, as a whole, seem cut out for the purpose I am advocating. Some day the "giants" will be possible to be had at a reasonable figure, and then I expect no one will be without a potful or two. Meanwhile, let me say what a dainty bloom Fairy Queen is. Everyone must like it. Then, it is so free. An old-fashioned Tazetta that appealed very much to me this last spring was Dr. Holland. Mr. Bowles probably does not know it, or it might have been coupled with Bazelman major and Muzart orientalis; or it may be he was writing of outside flowers, whereas I am strictly now an inside man. Lastly, let me advise Mr. Duncan Pearson, and anyone else who is interested in the Poet type, to try, as a good everyday plant, Ben Jonson. I am disposed to think it has been peculiarly well named, for the life-history of the man may well be repeated in the flower; and that the day will come when it will enjoy the high favour of its patrons—the Daffodil-loving public.

JOSEPH JACOB.

DAFFODILS IN NEW ZEALAND.

(*Continued from page* 464.)

THERE are several large growers in the South, some of whom, including Mr. Charles Goodson of Hawera (Taranaki), Mr. A. E. Lowe of Tai Tapu and Mr. F. Biggs of Christchurch (Canterbury), Mr. A. Miller and Mr. J. Blair of Mornington, Dunedin, Mr. J. J. Woods, Mr. H. Hart and Mr. H. Darton of Lawrence, and Mr. A. B. Haggitt of Invercargill (Otago), have been for some years engaged in raising seedlings, with considerable success. There are, I understand, no growers of seedlings in our capital province (Wellington), though Mr. Thomas Mason of Lower Hutt (now deceased) raised some good things, which have, unfortunately, gone astray. All the above-mentioned growers are, I believe, amateurs, with the exception of Mr. Lowe, who is gardener to the Hon. R. Heaton Rhodes (Postmaster-General) of Tai Tapu, Canterbury, and as Mr. Rhodes has been a lavish importer of the best things obtainable in England, in his service Mr. Lowe had exceptional opportunities for hybridising, of which he fully availed himself. As the result he has a very fine lot of seedlings, some of which have received certificates, and he considers several of his raising to be improvements on standard imported varieties.

We have not seen any of the Southern seedlings in Auckland yet, but we hear of some fine trumpets from both pollen and seed of King Alfred, and also some fine red cups. For the past two seasons we have had the services of Mr. E. A. Hamel of Dunedin as judge at our spring show, and I am indebted to him for some of my information with regard to matters in the South. He informed me, among other things, that he considered they grew red cups better in the South, getting richer colour of longer standing than he observed in Auckland. This is probably attributable to the cooler climate of Otago, many red-cupped varieties here being given to "burning" quickly in fine weather. I must not omit to refer to the distinction attained by Mr. Biggs of Christchurch of being the first New Zealand grower to exhibit a seedling in England and merit favourable comment from so good a judge as the Rev. J. Jacob, as did his Hon. R. J. Seddon (*vide* your issue of March 29 last).

The subject of nomenclature is now causing some trouble, as, with so many new varieties being raised in Australia and New Zealand, it is but natural that duplication of names should occur. Several names appropriated and used out here during the past few years are now, we find by perusing recent catalogues, &c., borne by novelties recently exhibited or put into commerce at home, and unless some system is devised to regulate the matter, confusion must ensue when Antipodean novelties now being introduced into commerce begin to be distributed. I noticed paragraphs recently in THE GARDEN referring to the probability of a Daffodil Year Book being published, and a movement for the formation of a National Daffodil Society. I think these are both good projects, and that they will receive the approbation and support of New Zealand growers, and I hope one of the subjects they will take in hand and deal with will be this same matter of nomenclature.

Another matter requiring attention here is the certificating of new varieties. I do not know whether the Southern societies have given the matter serious attention, but in the Auckland Horticultural Society it has come up on two or three occasions for discussion; but definite action was deferred, there being a feeling that an award of merit conferred by a society such as our local one would not carry much weight outside, and that a Dominion committee or committees should be constituted for the purpose of adjudicating on new varieties, not only of Daffodils, but all other classes of horticultural products. So far the difficulties to be overcome have prevented the consummation of so desirable an object. Our society, however, felt that some recognition of Professor Thomas' work with the Narcissus should not be longer postponed, and at our 1911 and 1912 shows instructed the judge (from Dunedin) to consider the seedlings exhibited with this object in view. Accordingly, some six or seven of Professor Thomas' productions then in bloom were awarded the Auckland Horticultural Society's certificate of merit, of which, I think, they were well worthy, and it is intended to send particulars of these to the Editor of the Daffodil Year Book.

The cut-flower business here, which a few years back was of small importance, has now developed to very noticeable proportions, and in this the Daffodil takes a foremost place. The flowers are grown for sale mostly by orchardists and nurserymen in the remoter suburbs, planted between the rows of fruit trees, and are found to pay fairly well as a side-line, as they come in at a time when orchard work is somewhat slack, and the returns from them are a welcome prelude to the fruit harvest. Some of the larger growers pack and forward a large quantity to the Southern towns, where enhanced prices are obtained, as our season is considerably earlier than theirs. The best selling kinds are the large yellow trumpets, but most of the large, long-stalked ones find a ready market.

In your issue of December 14 last appeared a paragraph (which was copied by our New Zealand *Graphic*) referring to the possibility of the best and newest of New Zealand raised Daffodils being grown and shown in England. I have been unable to obtain any information locally as to this scheme, so I assume it emanated from one or other of the large Southern growers. We hope the idea will materialise in the near future, and that, if it does, Auckland will be well represented. Of course, growers may not care to send away their very latest productions, of which the number of bulbs would be very limited, and the New Zealand display would be handicapped by the lapse of time necessary to the acclimatising of the bulbs at home, and possibly they may not at first take kindly to the English climate. Still, if they were taken in hand by one or more of your many expert growers, and not staged until they had time to settle down and become "at home" in their new environment, the experiment and opportunity of comparison should prove very interesting, and I venture to think should do us credit.

Since jotting down these notes, I have read your reports of the London and Midland shows, and the accounts of the latest good things make us pause and wonder how much further the "manufacture" of such wonderful new specimens of this flower will go and what direction the next break will take. One wonders what would be the emotions of Dean Herbert, Leeds, Backhouse and other pioneers of half a century and more ago, could they visit a present-day show; for surely they never could have imagined that the work begun by them with such meagre material would develop to the extent it has and bring forth such remarkable forms as are now coming forward each year in increasing number and variety. These latest reports, while making us feel diffident as to how our flowers would compare, yet make us more anxious to know how we stand, and we feel every confidence that our representatives would make a respectable showing, especially if the home critics bear in mind that so far we have had to import all our breeding stock, and we are therefore of necessity some years behind in this important respect.

Auckland, New Zealand. A. E. GRINDROD.

TRIALS OF ANTIRRHINUMS AT WISLEY.

As announced in our issue for September 6, the Royal Horticultural Society have held trials of Antirrhinums at Wisley this year. These were visited by the floral committee on the 29th ult., and the following awards made by them on that occasion were confirmed by the Council on the 9th inst.:

Awards of Merit.—To Amber Queen, from Messrs. Barr, Covent Garden, and Messrs. Watkins and Simpson, Covent Garden; Beacon, from Messrs. James Veitch and Sons, Chelsea; Beauty, from Messrs. Barr, Covent Garden; Bonfire, from Messrs. Simpson, Birmingham, and Robert Sydenham, Limited, Birmingham; Carmine Queen, from Messrs. Watkins and Simpson, Covent Garden; Coccinea, Crimson King and Daphne, from Messrs. Hurst, Houndsditch; Defiance and Fire King, from Messrs. Bath, Wisbech; Golden Morn, from Messrs. Watkins and Simpson, Covent Garden; Golden Queen, from Messrs. Bath, Wisbech; Maize Queen and Moonlight, from Messrs. Dobbie, Edinburgh; Pink and Queen Victoria, from Messrs. James Veitch and Sons, Chelsea; Rosy Morn, from Messrs. Watkins and Simpson, Covent Garden; Salmon Pink, from Messrs. R. Veitch, Exeter; Sunset, from Messrs. Dickson and Robinson, Manchester; White Beauty and White Queen, from Messrs. Dobbie, Edinburgh; Yellow, from Messrs. James Veitch and Sons, Chelsea; Yellow King, from Messrs. Barr, Covent Garden; and Yellow Queen, from Messrs. Hurst, Houndsditch.

Highly Commended.—To Albino, from Mr. F. C. Heinemann, Erfurt; Brilliant, from Messrs. Barr, Covent Garden; Brilliant Rose, from Messrs. Bath, Wisbech; Buff Queen, from Messrs. Watkins and Simpson, Covent Garden; Coral Red, from Messrs. James Veitch and Sons, Chelsea; Dainty, from Messrs. Dickson and Robinson, Manchester; Dainty Queen, from Robert Sydenham, Limited, Birmingham; Firelight, from Messrs. Bath, Wisbech; Galatea, from Messrs. Barr, Covent Garden; Nobile, from Messrs. Hurst, Houndsditch; Pink Beauty and Pink Queen, from Messrs. Watkins and Simpson, Covent Garden; Roseum, from Messrs. Carter, Raynes Park; Scarlet Carmine, from Messrs. Dickson and Robinson, Manchester; and White Queen and Yellow Prince, from Messrs. Hurst, Houndsditch.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

WATER LILIES (*Anxious*).—These will succeed much better if you will lay a circle of bricks on the bottom of the tank 12 feet in diameter, and fill up the space with good soil and plunge the baskets in it. The best time to plant out is the end of March or the first week in April; but as you have the plants already by you, put them in water (in baskets) now and add the extra soil in spring.

PLANTING FOR EFFECT (*York*).—A mass of shrubs with coloured or variegated leaves would answer as well as anything in the position you describe, providing such subjects are selected as may be expected to retain their colour throughout the summer. For late winter and early spring an effect might be made beneath the shrubs by the use of Snowdrops, Crocuses, Winter Aconites, Chionodoxas, or other similar plants. The following shrubs are likely to prove suitable: Prunus Pissardi, Purple-leaved Nut, Acer palmatum var. atropurpureum, Cornus alba Spæthii, Acer Negundo californica aurea, Catalpa bignonioides aurea, Euonymus japonicus aureus, Cornus alba variegata, C. Mas variegata, Acer Negundo variegata, Cotton Lavender, Golden and Silver leaved Hollies, and Golden and Silver leaved Tree Ivies.

TREATMENT OF BORDER CARNATIONS (*H. A. F.*).—Under the conditions named we should advise you to pot up your Carnations during the winter and plant them out in the spring. This will enable you to thoroughly clean the place and prepare the soil for their reception. Pots from 3½ inches to 4 inches in diameter are very suitable for the cuttings, and these pots should be quite clean and effectually drained with a broken crock or two placed in the bottom. In potting, instead of sifted soil from the garden, use some good loam, which may be obtained from any local nurseryman. It should be well broken up, but not sifted, and, in potting, a few of the rougher portions may be placed in the bottom immediately over the crocks. The other ingredients can remain the same. From your note we gather that the frame is not large enough to accommodate all your layers when potted singly, and if this is the case, the better way will be to give the weaker ones the protection of a frame and plunge the stronger growers out of doors in Cocoanut refuse, ashes, or some other suitable material. The pots should be plunged to the rims. In the case of those in the frame, it must be borne in mind that plenty of air is essential, the main use of the frame being to keep off heavy rains and to protect from severe frost. While sufficient water should be given to keep the soil moderately moist, an excess must be strictly guarded against.

MOULD ON SOIL FOR DAFFODILS (*H. W. K.*).—The mould is probably caused by the bones, as you consider, but we do not think that it is likely to do harm to your bulbs. It will be safer, however, to examine one or two of the plunged pots to see if it is present there also, and, if so, if it has permeated the soil, or if it is only on the surface. If it has permeated the whole soil, it will be necessary to repot in fresh compost, using bones which have been properly steamed. We have had this mould on the surface of pots of bulbs occasionally without any detriment to the Daffodils, but when it was discovered the top soil was removed and the mould did not reappear. Sterilising the bones as well as the soil would reduce their manurial properties. We should advise you to keep a careful watch on the soil in the pots, but the mould may not be due to the bones so much as to the place in which you have kept the unused compost, as it sometimes arises in a close atmosphere. Another cause which we have found was by mixing the soil when it was too wet. We find basic slag safer than bone-meal for Daffodils, seeing that there are so many inferior kinds of the latter sold.

PLAN OF HERBACEOUS BORDER (*Cestrian*).—Your plan is well conceived, and should give you a continuous display for the period you mention, although, of course, some of the plants will not remain in flower the whole period. You do not say what Coreopsis you intend using, but if the Monarda is properly grown it should overtop the former, and would, therefore, be better behind instead of in front of the Coreopsis. C. grandiflora is the best, but is not long-lived. But for the fact that you require to lighten up the part occupied by the Rhododendrons in autumn, both the Monarda and Anemone japonica would be better on the side with slight shade. As things are, they will be better where you have put them, but they should be liberally treated. We presume you will use a white variety of A. japonica. If you mean to use both Heuchera Walker's variety and H. Rosamunde, the latter is the taller of the two. If you mean Helenium pumilum grandiflorum or magnificum by the initials "P. G.," you will find it rather taller than the perennial Gaillardias if properly grown. With the slight alterations indicated, we think your border should give a good effect, although much will depend upon the seasons.

TREES AND SHRUBS.

CLIMBERS FOR COVERING THE SOUTH AND EAST WALLS OF A MANSION QUICKLY (*Hamish*).—The following plants will be likely to suit your purpose: Wistaria chinensis, W. multijuga, Clematis montana, C. m. rubens, Aristolochia Sipho, Hydrangea petiolaris, Tecoma grandiflora, Vitis henryana, V. Coignetiæ, Jasminum officinale, J. nudiflorum, and, though not climbers, Cratægus Pyracantha and Magnolia grandiflora. If you do not mind very common plants, the quickest-growing of all climbers is Ampelopsis Veitchii, while the large-leaved Ivies also make rapid growth.

CLIMBERS FOR A WALL (*K. Manwaring*).—The following climbers, &c., are likely to give satisfactory results against your walls: For the south wall, where you wish to have Roses, use William A. Richardson, Gloire de Dijon, Climbing Mrs. W. J. Grant, Climbing Souvenir de la Malmaison, Ards Rover, Belle Lyonnaise, Bouquet d'Or, Cheshunt Hybrid, Ards Pillar, Aimée Vibert and Ards Rambler. Against the west wall you might plant Wistaria chinensis, Ceanothus rigidus, Magnolia grandiflora and Clematis montana. On the south-east wall Wistaria multijuga, Jasminum nudiflorum, J. officinale and Clematis montana rubens would do well; while the north wall might be covered with Cratægus Pyracantha, Ampelopsis Veitchii, and Clematis Jackmanii and varieties. Against the terrace wall the following plants would thrive: Ceanothus veitchianus, Escallonia macrantha, E. langleyensis, Chimonanthus fragrans grandiflora, Garrya elliptica (male form), Hydrangea petiolaris, Corokea Cotoneaster, Myrtus communis, Prunus triloba flore pleno and Cydonia japonica var. cardinalis.

TRANSPLANTING A MONKEY PUZZLE (*B. A. M.*).—Had you stated the size of the tree you wish to move, it would be easier to answer the question. The second half of September is a very good time to move such trees. A tree 4 feet or 6 feet in height may be safely transplanted by carefully digging it out with a fork, saving all the fibrous roots possible. Lift the roots on to a mat or large sack, on which to carry the tree to the new position. Water the tree after planting, if necessary. Larger trees are more safely transplanted with a large ball of soil. A trench is first of all dug round the tree at a convenient distance to expose the ball of soil, 2 feet or more in diameter, according to the size of the tree. Next bind a canvas sheet or mats round the ball of soil with soft cord. At a convenient depth, from 15 inches to 18 inches, work the soil from under the ball on either side to permit two boards to be placed in position to lift the tree. When too large to lift out of the hole by men, a transplanting machine may be used, or a sloping trench made down to the hole, up which the ball of soil may be dragged on rollers and planks. After removal, syringe the plant for a month on every evening following a dry, sunny day.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Our Special Rose Number.—On October 11 we shall publish a specially-enlarged number, which will contain many interesting and practical articles on the raising and cultivation of Roses. The numerous illustrations will be of a unique character, and as the date coincides with the commencement of the planting season, there is certain to be a great demand for that issue. We advise readers who require extra copies to order them in advance.

Japanese Grasshoppers.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Goodacre of Moulton Paddocks sent a number of Japanese grasshoppers (Diestrammena marmorata), and observed that the insects had established themselves in the large conservatory at Moulton, and had also invaded the mansion. The problem now was to exterminate them. They are large, handsome insects in the larvæ stage. When fully matured they will be very formidable-looking creatures.

A Beautiful Plantain Lily.—In Funkia tardiflora, as the name suggests, we have a most attractive late-flowering Plantain Lily, at its best towards the end of September or early in October. Choose a sheltered spot to plant the roots, as an early frost in October would spoil the flowers in an exposed position. As an edging to a half-shady border or a sheltered nook in the rockery, Funkia tardiflora is especially effective. The spikes of lilac-tinted flowers reach about a foot in height.

Maw's Heath.—Flowering from August to October, Erica mawcana is one of our most valuable and attractive autumn-flowering Heaths. Growing 1 foot to 18 inches high, the small bushes are freely clothed with clusters of purplish red flowers. Its origin is uncertain; though given in the "Kew Hand List of Trees and Shrubs" as a variety of E. ciliaris, it is probably a hybrid between that species and some other Heath. In addition to its value for planting in the pleasure grounds and shrubbery borders, Maw's Heath is worth a place in the rock garden.

Shirley Poppies and Cornflowers.—During last summer, when on a visit to the gardens of Mr. H. F. Nicholl, Bear Place, Twyford, we saw a pretty bed of Shirley Poppies intermixed with Cornflowers. It was a chance shot, as they say, but it will be repeated again. The Shirley Poppies are showy plants, and for hardiness and easy cultivation cannot be excelled; while among the Cornflowers will be found various shades of blue, a colour lacking in the Poppies. It is one of the loveliest of our blue-flowered annuals, and is extremely useful for cutting and decorative purposes. Seeds of the above may be sown both in the autumn and spring, the former time being chosen for early blooming and the latter for a succession or later supply.

The Japanese Anemone.—The rosy carmine Anemone japonica is well known at this season of the year by the fine display it makes in the border or bed. There is also a white variety known as alba, which produces its chaste blossoms freely from August to November; but the best white in commerce is undoubtedly that which goes under the name of Géante des Blanches. The silvery white flowers are large and about three inches or four inches in diameter, while the plants grow from 18 inches to 30 inches high. These Anemones are among the handsomest of border plants. They will thrive in almost any garden or position, and may be readily increased by division.

Varieties of the Common Ling.—There are numerous forms or varieties of Calluna or Erica vulgaris deserving of liberal planting in the pleasure grounds and woodland. In gardens where there is little or no lime in the soil we ought to make much greater use of these and other autumn-flowering Heaths, as they blossom at a time when there are few trees and shrubs in flower in the pleasure grounds and shrubbery borders. Half-a-dozen of the most distinct varieties are Alportii, a strong-growing, crimson-flowered form; Serlei, stiff, upright growth, white; rubra, rosy red; flore pleno, double rose; alba, the popular white Heather; and rosea, rose.

A Free-Flowering Pentstemon.—Though of comparatively recent introduction, Pentstemon Southgate Gem is rapidly increasing in popular favour. A hybrid between Hartwegii (Newbury Gem) and one of the large-flowered sorts, Southgate Gem inherits the free-flowering qualities of Hartwegii, and has considerably larger bright red flowers. For the past two months four large beds (containing about two hundred and fifty plants in each) in front of the Palm House at Kew have been admired by thousands of visitors, and a succession of flowers seems assured for some time to come, judging by the number of unopened buds.

Stopping Mealy Bug on Grapes.—Every gardener who has attempted to grow Grapes is fully aware of the loathsome character of the mealy bug, an insect that ensconces itself between the berries and renders the fruit almost useless. No matter what precautions are taken to eradicate this pest from the house, a few insects are almost certain to escape. Last week, when visiting some well-known nurseries in the Midlands, we were interested to see that the sticky substance, such as tanglefoot, used for grease-banding fruit trees, had been used on the Vines. A very small quantity had been smeared around each Vine shoot just where a bunch had emanated, and this, the owner assured us, had effectively prevented the insects reaching the fruit. Certainly we failed to detect their presence in any of the bunches the stems of which had been so treated, and we record the method for the benefit of those who care to give it a trial another year. The sticky substance should be put on almost as soon as the bunches are formed.

CORRESPONDENCE.

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

Scentless Musk.—The old-fashioned small Musk in this garden, and at Sudbrooke Holme, near here, has quite lost its smell. I have had my stock twenty-six years.—(Mrs.) E. SANDARS, *Scampton House, near Lincoln.*

Polyantha Rose Leonie Lamesch.—I have just seen this lovely Polyantha for the first time, and I am so enamoured of it that I cannot refrain from bringing it to the notice of the readers of THE GARDEN, so that any of them who may contemplate planting may consider its claims to a place in their collection. It is rightly described as "a deep coppery red, shaded with yellow; an exceedingly attractive colour." I find that it was introduced so far back as 1899.—CALEDONIA.

Rose Augustine Guinoisseau.—I planted a dwarf of this Rose about six years ago. Hitherto it has borne normal blooms, white, tinted blush. This year there is one bloom on it similar to La France in colour and shape. If the Rose was originally a sport of La France, as its alternative name White La France would imply, this is an interesting case of reversion after several years of cutting back. I should be glad to learn whether any of your readers have noticed the same thing in this or any other sport.—R. F. COBBOLD, *Beachampton Rectory, Stony Stratford.*

Tropæolum canariense.—When well cultivated this plant has few rivals in the matter of furnishing a screen, wall, or trellis with beautiful foliage and lovely flowers. While passing a villa residence recently I saw a very fine specimen, the largest and best I have noticed in any garden, quite hiding a portion of trellis and wall measuring about nine feet by five feet. There were hundreds—I may say thousands—of yellow blossoms on the plant, which was shown to great advantage by the luxuriant and bronzing leaves of an Ampelopsis near them. The aspect is north-west, and only gets sunshine late in the afternoon. Splendid plants may be raised by sowing seeds in a frame the first week in April.—AVON.

The Orleans Rose in Scotland.—One of the best and most useful of the many good Roses in the admirably-selected collection in the garden of Mr. C. E. Galbraith at Terregles, Dumfries, is the Orleans Rose, a fine bed of which has been doing very well this season, and which was a mass of bloom in the beginning of September. Raised by Levavasseur and sent out in 1909, it has rapidly acquired great favour, and at Terregles it is highly appreciated. Of vigorous growth, it gives an abundance of its great trusses of flowers, which have been well described as rosy red with a peach centre. Roses are well grown at Terregles by Mr. W. Hutchinson, the gardener, who thinks highly of this fine Polyantha variety.—S. A.

The Late Blooming of Wichuraiana Roses.—During last winter I had occasion to plant a long row—some 400 yards—of standard wichuraianas. The plants were not large-headed, and were pruned back about half way. They came into flower a fortnight later than the general run of established plants upon the same ground, and early in September were very fine. A lot of new growths broke after the trying spring, and these flowered freely. Among the best plants are Excelsa, Débutante, Christian Curle, Delight, Hiawatha, Minnehaha, Dorothy Dennison and the white single type, wichuraiana alba. I have never noticed them so full of flower so late, and wonder if others have experienced the same. My plants promise to last through the best part of the present month. American Pillar is also grand under similar conditions now, and has been for a long time.—A. P.

Primula littoniana Hardy in Scotland.—It will perhaps be interesting to many readers of THE GARDEN to know that this beautiful species, from the mountains of Western China, has proved perfectly hardy here. In the rockery I have a plant in perfect health and carrying four fine spikes. It passed through last winter's frost unprotected, and our severest frost was 21°. I should also like to mention that P. cockburniana and P. bulleyana have proved quite hardy here without any protection whatever, have flowered exceedingly well, and show every prospect of ripening a good crop of seed. P. cockburniana is quite perennial with us. I am planting a good many Primula Forrestii and P. Veitchii for next winter's test. We plant large, bold masses of each species, and thus obtain a charming effect.—WILLIAM HUNT, *Saughton House, Midlothian.*

Annual Larkspurs and Aster diffusus.—May I draw the attention of your readers to an easily-grown, cheap and effective combination either for a single bed or for a group in an ordinary border? I refer to the annual Larkspur and the small-leaved Aster diffusus. Plant single pieces, not clumps, of the Aster in April from 2 feet to 3 feet apart and grow to a single stem. Sow the Larkspur between them and thin out or transplant, so that the two plants are evenly distributed. The foliage of the Asters supports and clothes the bare, straggling branches of the annual, and forms an excellent setting to the flowers. By removing the seed-pods the Larkspurs will keep on flowering till September, when they may be pulled up, the bed of Aster diffusus remaining for the rest of the autumn. If the Asters show a tendency to grow too strong, they will stand any amount of thinning. A poor soil is best.—SURREY.

Salvia involucrata Bethellii.—May I ask if any readers of THE GARDEN are acquainted with Salvia involucrata variety Bethellii? It has proved a great success with me as a plant for the open border, though I am told it is not quite hardy. I had it in a cold house all last winter and planted it out in May, when it began to grow quickly and showed flower-buds in July, since which it has gone on developing spike after spike of brilliant rose pink flowers, the bush being now 3½ feet high and as much across. The leaves are a beautiful shining green and the stems reddish, the whole forming an extremely handsome plant. The side shoots are now preparing to bloom, so that if mild weather continues it will be even more showy in a few weeks' time than it is now. It seems to me a plant well worth growing, even if I cannot keep it out of doors through the winter, but I do not feel at all certain that this is the case.—SELINA RANDOLPH, *Chartham, Canterbury.*

Growing Lilium giganteum.—There is no doubt that a partially-shaded spot is best for this noble Lily, while a sandy border in a town garden referred to on page 419 is as undesirable a place as well could be. In any attempt to grow it in poor, sandy soil, a large hole should be taken out and filled with some good compost, in which, however, crude manure plays no part. Another important feature is that, though large bulbs are often offered during the winter months, they rarely, if ever, give satisfaction, as they already contain the flowers in embryo, and have not time to become established before the stem is pushed up. The blossoms are therefore mainly dependent for their development upon the substance of the bulb, and consequently the stem is puny and the flowers the same. The bulbs should be planted when small, so that there is ample time for them to become established before the strain of flowering comes round.—H. P.

About Two Old Roses.—We have two beautiful old varieties growing on a fence that are scarcely ever referred to, namely, Rose Ophirie and the Yellow Banksian Rose. But what a vast difference in their behaviour we experience! Both grow splendidly, and there the latter stops, while Ophirie never fails to flower. It was, the first week in August, covered with some very fine flowers, which are of a salmon and coppery hue. As the flowers expand they have a flattish appearance, not unlike those of Gloire de Dijon. The colour of Rose Ophirie makes a very pleasing contrast from the many shades of reds and pinks of the rambler section. Our plant is growing on a south-west fence. Growing next to it, some of their growths being interlaced, is the Yellow Banksian Rose, and I can honestly write it has not yielded one handful of flowers during the last ten years—the time it has been planted. It is a most healthy plant, with fine, clean growths and glossy foliage. The latter is one of its good features, and being thornless is another; but all leaves and no flowers for ten years is a bit too "barefaced." And so it is quite possible that the year 1913 will ring its death knell.—C. T., *Ken View Garden, Highgate.*

Protecting Rambler Roses.—"Amateur" on page 442 mentions the tenderness of ramblers during winter. The idea of lifting as a means of checking the late sap so prevalent with this class of vigorous grower is good, and I have found some live a little better through it. But one cannot lift old, well-wooded specimens, nor will the bulk of last season's growth be of much service for future blooming, unless it can be brought through the winter and still remain upon more or less established roots. "Amateur" does not state where he lives, but I can confirm the havoc done by the severe early frosts in the North; and upon more than one occasion ramblers have suffered sadly in the colder districts, especially if accompanied by keen winds. A slight lifting or root pruning with the spade as the plants stand would probably check sap a little; but if the ground is warm, new roots would at once spring out and afford an even later supply until frost came. Much might be done towards securing better and more finished growth if the shoots were kept thinned to allow of ample light and air among the wood. In a bleak and exposed position any Rose will suffer from sharp frost, and the fact of our ramblers growing so late during the moister days of autumn makes them far more liable to attack than Roses which naturally mature earlier. A little protection in the way of large, feathered branches of Hazel, Spruce or Gorse, placed at a little distance and upon the weather side of the plants, has been tried, with excellent results; but I do not quite like the idea of wrapping the growths in Bracken or straw. Some of our ramblers and some of the newer Hybrid Wichuraianas are more tender than others. I have found American Pillar, François Crousse, Gloire de Dijon, Hélène, Longworth Rambler, Mme. Alfred Carrière, Polyantha grandiflora, Rêve d'Or, Trier, Félicité Perpétue, Dawn, and the weeping form of Rosa rugosa (R. r. repens alba) about the hardiest of all pillar or rambling Roses.—A. P.

A Beautiful Dark Rose.—I should like to call attention to Rose Château de Clos Vougeot. It is one of the best, if not the best, black maroon Roses which we have for bedding. Its colour may be best described as blackish maroon shaded with fiery red and velvety crimson. So far as I have been able to judge, it is better on the Briar stock than on the Manetti. On good land the growth is fairly vigorous, but it is advisable for bedding purposes to plant rather thickly, 18 inches apart being a suitable distance from plant to plant. It is a good autumn Rose, good flowers being produced at the date of writing (September 19). So far our plants are quite free from mildew, although other varieties of Roses near by are affected.—COLIN RUSE, *Sulhamstead.*

Iris Kæmpferi in Japan.—The accompanying illustration shows a portion of the Iris grounds of the Yokohama Nursery Company in Japan. This delightful spot is situated a few miles from the head nursery in Yokohama, and is reached by tram and train. When the flowers are at their best, the gardens are extensively advertised throughout Japan, and thousands of visitors go there annually. It is undoubtedly the largest Iris Kæmpferi nursery in the world, covering many acres in extent. The exports of this popular plant are made in midwinter, when the clumps are quite dormant. They are usually packed in small cases, and travel most successfully to all parts of the world. Judging from the large, well-flowered groups of this plant exhibited at recent exhibitions in England, its cultivation has evidently much improved in this country.

AN IRIS NURSERY IN JAPAN.

Antirrhinum rupestre in an Irish Garden.—This plant differs so much from the erect-growing kinds that a few remarks as to its qualities and habit of growth may not be out of place. As a rock plant it has few rivals. Its sulphur and yellow flowers contrast well with the scarlet Lotus peliorhyncus. Both plants are of a trailing habit, and will creep over rocks in a most wonderful fashion. A. rupestre should be planted in sandy soil, always choosing a sheltered position. It is quite hardy here, and will live out of doors all the year round and continue in bloom until late in the autumn. It may be also seen here in company with that beautiful scarlet Tropæolum speciosum, which annually makes its way through a closely-clipped Privet hedge fully 4 feet in height, on the top of which it wanders carelessly, bearing its racemes of brilliant scarlet flowers and forming a picture of beauty more easily imagined than described. Peeping here and there through the Privet hedge may be seen healthy sprays of A. rupestre, which has travelled from the bottom the flowers and foliage of which differ so much from the other subjects as to give a most pleasing effect. A. rupestre may be propagated by cuttings in the autumn or by seed sown in gentle heat in early spring. I consider the latter method of propagation the best, as the plants come stronger and furnish better.—S. BRYAN, *Fortfula House, Ferenure, County Dublin.*

Campanula cenisia alba.—This really very lovely plant is now in full flower for the second time this summer. I owe it to the kindness of a fellow-enthusiast, Mr. Tucker of Oxford; but the remoter history of the form I do not know, though I remember that an albino was once discovered by Mme. Correvon. Often though I have found the species myself, I do not think I have ever seen anything more marked in the way of variation than a delicate silver pale form; certainly no albino. And wonderful as is the subtle grey-blue charm of C. cenisia, type, huddled in dense masses of blossom tight among the dark stones of the highest moraines, it must undoubtedly yield to the beauty of this albino, which is as generous of blossom as its original, but with large flowers of the richest creamy whiteness, most fascinating to behold. It is growing robustly in a mixture of peat, leaf-mould and very rough sand in a bed where water is perpetually percolating from a pierced pipe some 12 inches below the surface. This will, of course, be turned off in the winter, and in the meantime this rather difficult and exacting species so wholly appreciates its treatment that not only is it thriving heartily itself, but has also deposited already at least three prosperous seedlings—a freedom of which I have never yet known C. cenisia to be guilty of in the garden before. And such care, so rewarded, is well deserved by a species so delicately lovely as C. cenisia with its albino.—REGINALD FARRER.

FORTHCOMING EVENTS.

October 1.—National Chrysanthemum Society's Show at the Crystal Palace (two days). County Clare Horticultural Society's Fruit and Farm Produce Show.

THE CAMPANULAS.

WITH reference to the excellent series of papers on Campanula now running through THE GARDEN, may I point out that C. alpestris, All. 1755, is the prior, and therefore the *only* proper name for C. Allionii, Vill. 1779. Let all gardeners and catalogues promptly take note. No obscurity is involved; the point is absolutely plain and certain. The oldest name, like truth, must in all cases ultimately prevail, although, like truth's, the battle may often be doubtful and long. Well do I know the bitterness of thus having to change names and revise conceptions, yet nowadays it is of the most vital importance, alike to buyers and sellers, that we should all make a great effort to secure uniformity and accuracy in our nomenclature, for even bitterer than learning a right name instead of a wrong is the bitterness of buying some expensive novelty under half-a-dozen different names, and then, at the end, discovering that it is really some quite ordinary plant that you had all along possessed under another.

Yet more conspicuous, however, is the fearful confusion that now rages in gardening books as well as in THE GARDEN, in all catalogues and all gardens alike, over C. pusilla and C. cæspitosa. To this confusion I myself have also added no longer ago than last year. Let me now make amends by an attempt to unveil truth. First of all, the plant universally prevailing in our gardens under various names and in varying forms is everywhere and always C. pusilla, Haenke (C. modesta and C. pumila are *nomina nuda*),

THE PINK BUGLE LILY OR WATSONIA ROSEA.

To C. pusilla belong all the named forms, such as C. p. Miss Willmott and the very glorious C. p. Miranda, on which a note has already appeared prematurely in THE GARDEN—prematurely in that C. Miranda dare not face popular enthusiasm for some time yet to come. No description is necessary of C. pusilla; no garden is without it. On the other hand, C. cæspitosa, Scop., is a perfectly distinct and sound species, almost, if not wholly, unknown in cultivation, although of the most remarkable beauty and the most easy-going constitution. It may be recognised at once by its characteristics—one dense cæspitose tuft from a single tap-root, *never* ramifying after the fashion of C. pusilla; the barren shoots very densely packed with stiff, lanceolate, shining little leaves, which are also crowded at the base of the flower-stems (I see no diagnostic of difference between the two species in the form of leaf itself). These are much taller and slenderer than in C. pusilla, attaining often to 15 inches to 18 inches, whereas C. pusilla seldom, if ever, exceeds 6 inches. The flowers are more numerous along the upper part of the stem, delicately pendulous at intervals. They are of a rich soft blue, longitudinally ribbed in a marked and most attractive way, and slightly constricted towards the mouth so as to have the effect of a little swinging Japanese lantern. This most delightful of Campanulas belongs to the Eastern ranges. The most westerly record of my own is in the Ampezzothal between Toblach and Cortina, where it occurs rather sparsely and out of character; whereas in the Karawanken it comes to its full delicacy of glory, waving blue carillons over all the roadside banks and gravelly cuttings with the wiry, airy grace of Dierama pulcherrimum. (Is it possible the Royal Horticultural Society's Journal should allow this to be spoken of as Dierama pulcherr*ima*? Oh! that fatally feminine-looking Greek neuter termination in "ma"; yet Æthionema gets its right gender nowadays.) C. cæspitosa is a more lowland plant than C. pusilla, which seemed to me curiously rare and alpine in the Karawanken. I only happened on it once high up, when the botanist who accompanied me called it C. Scheuchzeri—a fact which sheds a lurid light on the confusions that arise in gardens among plants purchased from "collectors." C. cæspitosa never, I think, ascends to the usual altitudes of C. pusilla, but in its own ranges replaces C. pusilla in sandy, gravelly places, banks, roadsides, field, margins and cuttings. These conditions, or, indeed, any others, suit it admirably in cultivation, where it is not a whit less hearty and satisfactory than C. pusilla, setting up, too, to claim our affection with a beauty wholly distinct from that of its rival, a beauty sparkling and gracious and full of an airy charm beyond the reach or aim of the lower-growing, stumpier and more invasive little harebells of C. pusilla. REGINALD FARRER.

THE FLOWER GARDEN.

THE BUGLE LILIES, OR WATSONIAS.

THE Bugle Lilies, or Watsonias, are attractive and interesting plants, hailing from South Africa. There are only two species which are at present popular in gardens, viz., Watsonia alba, otherwise known as W. Ardernei, and W. rosea, and as they are now procurable at a cheap rate and of easy culture, there is no possible reason why they should not become more popular still, as they are admirably adapted for general garden decoration as well as for pot culture. For growing in the border, successional plantings during spring will result in a flowering period extending from July to October. When planted on heavy soil, it is perhaps advisable to lift after flowering, drying well, and storing as in the case of choice Gladioli, replanting them the following spring; but in certain cases on light soils they can remain out during the winter if a light covering of Bracken or other light material is provided.

Watsonia rosea, the subject of the illustration, is a time-honoured favourite in our gardens, having been introduced from South Africa so long ago as 1803. It has recently been shown in quantity, of surpassing beauty, by Mr. James Box of Hayward's Heath. By some botanical authorities it has been described and figured under the name of Gladiolus pyramidatus. Although not so often seen in gardens as Watsonia alba, it is, nevertheless, a pretty species, growing over four feet in height, with bright rose flowers, freely disposed, on long branching spikes, and long, broad green leaves. Other species of this family occasionally met with, such as Watsonia angusta (with small scarlet flowers), W. coccinea (flowers bright crimson), and W. densiflora, are among the best of this small family of bulbous plants.

A BRAZILIAN SALVIA.

(S. ULIGINOSA.)

CONSIDERABLE interest is being displayed in this Salvia, which hails from Brazil and is described in last week's issue (page 476) under the heading of "New and Rare Plants." This species has recently received an award of merit from the Royal Horticultural Society. In many ways it is less attractive than other species well known to cultivation, but Mr. Turner of Slough, who exhibited the plant on the occasion referred to, describes it as a hardy herbaceous perennial. It is unquestionably a near ally of Salvia azurea and S. Pitcheri, both well-known greenhouse plants; but there is reason to hope that the new-comer will prove hardier than either of these. S. uliginosa is a vigorous grower, reaching 4 feet to 6 feet in height, and the flowers, produced in dense terminating spikes, supply a clear shade of azure blue that is almost certain to be greatly prized in the gardens of this country.

THE ROSE GARDEN.

GOLD MEDAL ROSES AT THE AUTUMN SHOW.

THERE was much speculation as to what Ireland would send in the matter of new Roses, for it is well known that the three eminent raisers in the Emerald Isle have a wealth of novelties of a quality never yet attained before. However, the weather has been against them, as it has been for us in England, and this was reflected in the novelties staged, some of which were, no doubt, excellent, but scarcely up to the standard necessary for a gold medal. The awarding of

SALVIA ULIGINOSA, NATIVE OF THE MARSH LANDS AND RIVER BANKS OF BRAZIL

SOME NEW HYBRID SAXIFRAGAS.

1. Comet.
2. Oculata rosea.
3. Rose Beauty.
4. Sanguinea superba.

Hudson & Kearns, Ltd., Printers, London, S.E.

gold medals is becoming quite a farce. When one of these coveted medals is awarded, as it was on this occasion, to a Rose like

Moonlight (the Rev. J. H. Pemberton), it seems the height of absurdity. If the award had gone to Danäe, I should not have been surprised, because this Rose is a great advance in colour in this new section of Hybrid Multifloras; but to give it to Moonlight, which can only claim being "pretty," is an error of judgment. I believe the award was only given by a bare majority. Now in

Muriel Dickson (Hugh Dickson, Limited) we have one of the most striking novelties. Perhaps the casual onlooker would not see anything great about it; but the writer, who has seen it in Ireland, can give it unqualified praise. The colour is a wonderful shade of cerise, with quite an orange glow about it. This latter colour comes from its relationship to the wonderful Pernetiana group, a relationship that is manifest in its growth as well as in its bloom. The flower is of a fine bold type that will ensure it a great popularity.

Edward Bohane (Alex. Dickson and Sons) is also a "great" Rose, of the wonderful colour of a very good George C. Waud, with a more massive petal. This variety was illustrated in The Garden of October 12, 1912, page 514. The growth is splendid and the foliage superb. I have seen this at Newtownards, and have no hesitation in saying it is worthy to be termed a genuine "Hawlmark" variety.

Edgar M. Burnett (S. McGredy and Son) is a giant among blush pink Roses, and will be a most useful variety for the show-box and for the garden. See illustration. Its colour seems to come midway between La Tosca and Lady Mary Fitzwilliam, and it has immense petals, perfectly arranged. From the plant exhibited it is evidently a fine garden Rose also.

Red Letter Day (Alex. Dickson and Sons) obtained the coveted gold medal, and, I think, quite worthily, for although only a semi-double flower, it is of such a glorious rich blackish crimson colour and so profuse in its blooming that it will be a really splendid addition to garden Roses and a formidable rival to Irish Fireflame and Irish Elegance. Red Letter Day is a splendid grower, one that can be used for a 5-feet or 6-feet hedge, or even more, and is constantly in bloom. When I saw it in its home at Newtownards recently it caught the eye immediately, and I was much impressed by its gorgeous colour and effect on the plants. It is gratifying to know that all three of the Irish raisers are paying attention to these garden Roses as well as to those of the exhibition type, and I especially welcome such sorts as Muriel Dickson and Edward Bohane, which may be used for both purposes, for this is what we want nowadays — Roses that are splendid in the garden, yielding blooms of quality in rich profusion.

Danecroft.

COLOURED PLATE.

PLATE 1477.

HYBRID SAXIFRAGES.

The great rise in popularity of rock gardening has been accompanied by a corresponding improvement among those flowers which are essential to the alpine garden. At no time have the Mossy Saxifrages been in greater favour than they are to-day. Among those to whom we are indebted for improved varieties should be mentioned Mrs. Lloyd Edwards, whose exhibits of these charming flowers, notably at the Royal Horticultural Society's meetings, have aroused much interest from an admiring public. In the matter of the hybridisation of the Mossy Saxifrages, Mrs. Lloyd Edwards' experience is here related in her own words:

"A few years ago the only Mossy Saxifrages with coloured flowers of any size were S. Rhei superba and S. Guildford Seedling, the former with pale rose flowers of good form, and the latter with rather small, bright red flowers, not very free-flowering or particularly vigorous in growth. One spring a self-sown seedling Mossy Saxifrage appeared in my little rock garden. It was probably a cross between S. Rhei superba and a cream-coloured, hairy variety called, I think, S. hirta, as it had some characteristics of each; but it was a great improvement on both in every way. This I named Apple Blossom, and it gave me the idea of trying to produce some large-flowered, bright-coloured varieties by hybridising. I had already had great success in trying to get a free-flowering race of Heucheras by this means. I used the new seedling S. Apple Blossom, S. Rhei superba and S. Guildford Seedling, and soon got some very beautiful large-flowered Mossies of different shades of colour and vigorous growth. About this time Messrs. Thompson and Morgan of Ipswich advertised among their seed novelties S. decipiens hybrida grandiflora. I bought a packet and crossed some of the resulting seedlings with my own, to their mutual improvement. A fine red seedling I named Ruby. This flowered twice in its first season, and was purchased by Messrs. Clibran's representative for a small sum. He saw it in flower in the autumn and was much struck by it. As S. Clibranii it has gained a considerable reputation. I continued selecting and cross-fertilising my best seedlings and produced Red Admiral, an improvement on Clibranii in size and colour. I wanted a really blood red Saxifrage, free-flowering and of compact growth, and in time got S. sanguinea superba. It shows in its neat, finely-cut foliage that S. Guildford Seedling was among its ancestors, and, as far as colouring is concerned, I think no redder Saxifrage can be produced. In the process of obtaining it I got many beautiful rose coloured and shaded Saxifrages, notably S. rosea superba, a very fine, free-flowering early variety with dark stems and red buds; and S. Rose Beauty, with beautifully-shaped flowers with small centres, which flowers very late. There was an idea that S. decipiens hybrida grandiflora of Messrs. Thompson and Morgan had been partly produced from S. granulata; but none that I raised showed any trace of such parentage. I, however, experimented in this direction and effected a cross between one of my finest red Mossies and a wild S. granulata, and from this raised Comet, White Queen, &c. These show their derivation very plainly in their partly granulated roots, leafy tufted growth, and in partially or wholly losing their leaves for a longer or shorter time. Nearly all the seedlings were white; some had pink buds; but, so far, I have not raised a red granulata hybrid. All are extraordinarily floriferous. The second generation of this cross produced some very beautiful large Mossy Saxifrages, such as Mrs. J. F. Tottenham and S. oculata rosea, which, with S. sanguinea superba, S. Rose Beauty and S. Comet, is shown in the coloured plate.

"I referred above to my first attempt at improving plants by hybridisation. That well-known amateur gardener, the late Rev. C. Wolley-Dod, gave me a dingy pink hybrid Heuchera from which I succeeded in getting many charming varieties by crossing it with H. sanguinea."

THE NEW ROSE EDGAR M. BURNETT. AWARDED THE NATIONAL ROSE SOCIETY'S GOLD MEDAL.

ROCK AND WATER GARDEN.

MICHAUXIA TCHIHATCHEFFII.

THIS stately plant, belonging to the Order Campanulaceæ, is a native of Asia Minor, and in our gardens grows best in a very sunny, well-drained border or against a south wall, its large, fleshy and brittle roots requiring a thorough rest and no standing water from September to April. The growing season of this plant is surprisingly short, as directly after ripening its seed in August the stems and leaves die completely down. The root "throws up" again in March and April, and it will attain great age when planted in a suitable position. Unless it is absolutely necessary, a plant once suited should on no account be shifted, as it intensely dislikes removal. The most satisfactory way of propagating is by seed, which germinates readily, but takes four years to reach the flowering stage. This Michauxia produces branching spikes 3 feet to 4 feet high, covered in June and July with very pale blue, almost white, flowers, somewhat resembling Passion Flowers, the petals of which are turned back, while the stigma is very large and conspicuous. The foliage is of a glaucous colour and very hirsute. The flowers of Michauxia Tchihatcheffii never vary much in colour, though another species, M. campanuloides, of easier culture, has rose to white flowers.

REGINALD A. MALBY.

THE FRUIT GARDEN.

THE BLACKBERRY AS A GARDEN FRUIT.

AS this is the season of the Blackberry, perhaps a word in its favour as showing its usefulness and value under cultivation, in contradistinction to its value as a hedgerow fruit, may be useful to town as well as to country readers of THE GARDEN. Four years ago I had a few young plants sent me of a variety which was said to be *par excellence* a good sort. I had been for some time looking out for a useful climbing plant for the purpose of making a screen from one portion of the garden, and also to afford some shade to the kitchen window from the midday sun. I concluded that these would be useful for the purpose, and planted two of them, erecting a rough trellis of poles for the plants to ramble over. One of the plants took the lead over the other, and is now practically responsible for the fruit since gathered, and also for forming an effective screen.

The result is that the year before last we gathered 7lb. of fruit; last year we gathered 16lb.; and this year, up to date (September 8), we have gathered 24lb., with a promise of from 6lb. to 10lb. more to come. The fruit is large—half as large again as the hedgerow Blackberry—an intense black colour, and sweet. It has proved most useful. Mixed with Apples, it is excellent for tarts and puddings, and for jelly, either alone or mixed with Apples. The plant I am speaking of is growing in a London suburban garden under the same conditions as many thousands of houses similarly situated in London and other towns. To those who care for the Blackberry and who may have places such as I have described which they wish to have screened, I very strongly recommend them to plant the humble Blackberry. One of the best sorts to plant is the variety named Parsley-leaved.

A word as to the culture adopted. This is simple, and entails but little trouble and practically no cost. The corner of the garden in which the plant was planted was trenched and liberally manured four years ago. During the summer months the border is mulched with rotten stable manure, and, during the whole time the fruit is swelling, the border receives heavy occasional waterings, averaging about once a fortnight. The border is 5 feet by 5 feet.

The shoots the plant is making this year are most vigorous, many of them being 20 feet long. These will produce the best fruits next year. These shoots are permitted to grow freely, as they will, until all the fruit has been gathered. Then the branches which have borne fruit are overhauled, and all the weakest of them cut out down to their base to make room for the young branches spoken of above.

O. T.

A STATELY PLANT OF THE CAMPANULA FAMILY, MICHAUXIA TCHIHATCHEFFII.

HOW TO GATHER AND STORE HARDY FRUITS.

Apples and Pears must receive first attention, as they are the most important of our hardy fruits for long storage. Medlars, Quinces and Nuts also deserve great care in the matter of storing. There is no need to pay particular attention to the storing of the earliest Apples and Pears, as these are quickly used up; but the varieties that are wanted for use throughout the winter and spring should have, and deserve, great care bestowed on them, as there are few other kinds of fruits to take their place.

Gathering and Grading.—Many cultivators in this country entirely neglect to pay special attention to the gathering and grading of the fruits, and consequently, through this carelessness, much loss results. Wherever possible, steps should be used instead of ladders, as the latter must be supported by the branches, and when the weight of the person gathering is added to it, the pressure often causes much bruising of fruits. Steps stand clear of the branches, and, when firmly fixed, are safer than ladders, which are supported, in many instances, by slender branches only. Very often the gatherer places the fruits in an apron pocket, an apron tied up, or in a bag. The fruits roll to and fro with every movement of the workman, and so the first bruises are made. They are also placed in baskets, trugs or boxes without any soft lining of moss or wood-wool being put in, and frequently rolled out of all such receptacles on to a bench or shelf, and the second lot of bruises are made. Fruits so treated will not keep in a sound condition throughout the winter months. The proper way to gather Apples and Pears is to grasp each specimen firmly with the fingers, raise it to a horizontal position, when, if ripe enough, it will readily part from the branch, and place it gently on a layer of soft material in a flat basket or box. Several baskets should be in use at the same time, and, when filled as suggested, carried to the store-room, and the fruits removed to the shelves separately. If the grading cannot be conveniently done when the fruit is being gathered, it can when it is placed on the shelves. Give the finest fruits the best positions in the store-room, the seconds in the next best position, and the small ones in heaps or on shelves by themselves, as they should be used first. Apples do best in the coolest part of a room. Shelves made of clean, unpainted battens are the best. Do not use straw on which to place the fruits, and put them down in single layers.

Ventilation is a very important matter. Sliding ventilators should be fixed in the walls near the bottom, and also near the eaves, and the openings covered with perforated zinc sheets. The most suitable store-room is one on the north side of a high wall or other building. Thatched sheds are very suitable, because the fluctuation of the internal temperature is less than in sheds tiled or slated. Medlars must be placed in single layers on shelves covered with sand. Nuts keep very well if stored in stone jars, and either buried in dry ground or covered with soil on the floor of a quite cold shed.

G. G.

TREES AND SHRUBS.

A NOBLE FLOWERING SHRUB.

SPIRÆA LINDLEYANA, the noblest of all the shrubby Spiræas, is a native of the Himalayas, and sometimes, under favourable circumstances, attains a height of 15 feet. This is the height of the specimen shown in the accompanying illustration, its diameter being 18 feet. A large example in a well-chosen situation, backed by evergreens at some little distance, is, when producing its spreading panicles of ivory white flowers, an exceedingly handsome object. It possesses an additional charm in its graceful, pinnate leaves, which lend to the shrub, even when not in bloom, a highly decorative effect. It should never be relegated, as, unfortunately, is too often the case, to the crowded collection of heterogeneous subjects too often dignified by the name of "shrubbery," where its roots are robbed of moisture by its hungry neighbours and crowded branches deny it the power to express its graceful symmetry.

When growing in proximity to water, as is the subject of the illustration, it exhibits exceeding vigour and speedily reaches a large size. It is towards the close of July, when its great white flower panicles are in perfection, that it attains the zenith of its loveliness. Then almost every fresh green spray is terminated by a spreading white plume from 18 inches to 2 feet in length, and a delightful picture is presented such as few inmates of the garden can rival. Indiscriminate pruning, which is too often indulged in, should be avoided. Many specimens which would otherwise reveal themselves in their true form are prevented from so doing by being cut hard back yearly. All that is necessary is to cut out the weakly shoots and to shorten back old flowering wood to a strong bud. Beautiful as is the picture of this Spiræa in full bloom, it has, unfortunately, the demerit of being a fleeting one, and in this respect compares unfavourably with the blossoms of its American relative, Spiræa ariæfolia or discolor, which retain their purity for a considerably longer period.

The subject of this note, with S. ariæfolia and S. flagelliformis, also known under the names of S. canescens and S. hypericifolia, are three fine shrubby Spiræas that are well worthy of choice positions in the garden. Though delighting in deep and moist soil and never so happy as when growing by the water-side. S. lindleyana often seeds freely, and in many cases large specimens may be found surrounded by young self-sown seedlings. WYNDHAM FITZHERBERT.

SPIRÆA LINDLEYANA IN A DEVONSHIRE GARDEN.

THE GREENHOUSE.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

IT will be advisable to carefully examine forward buds at least twice every day, and so watch for the showing of the colour of the flower-petals. Directly they show colour, or even if the scale in the centre bursts and exposes to view the points of the petals, the plants must be placed in the greenhouse, Peach-house or vinery, whichever is most convenient. The first plants to house will be those naturally late flowering, the buds on which will be quite forward now if taken early in August, and a few of the naturally early flowering sorts, which, despite the careful manipulation of the shoots by the cultivator, will have borne buds somewhat early. It is worse than useless to leave such buds exposed to rains and night dews, as they would quickly decay. Small buds containing only a few flower-petals would not be damaged by such exposure, but the large, fat buds would retain the collected moisture near the base of the petals, and early decay would set in there.

The House Facing North.—Of course, amateur cultivators do not always possess glass structures from which a selection may be made suitable for the accommodation of these plants. If, however, there is a house facing the north and not unduly overshadowed by trees or buildings, it will be a capital one in which to place the plants, as the latter require shelter but plenty of light and air without exposure to strong sunshine. In an early vinery where the Vines have been partially pruned back, or a Peach-house, the plants may be placed in single rows. Probably there will be room for them on both sides of the path. In a lean-to house the tall plants might be arranged in a row near the back wall, with a row of dwarf-growing plants in front. In such cases three rows of plants can be arranged, and they generally do remarkably well. In the case of a very small house, only the very best plants should be put in. A temporary shelter can be put up against a wall for the protection of the remainder, as cultivators often grow more plants than they can find room for under glass in the autumn. A current of air passing through the house will not be harmful, but beneficial, during the week or ten days following the placing of the plants under cover. At the end of this period ventilation must be ample, without cold draughts blowing directly on to the foliage, else the latter will soon become badly mildewed.

Timing Blooms.—Many inexperienced cultivators would like to know how long a bud takes to develop into a full-centred flower. A naturally late-flowering sort belonging to the Japanese section requires a little more than six weeks from the date when the points of the petals can be clearly seen. If we take Frances Jolliffe as an example of a medium early-flowering variety, five weeks are required. In order to get well-built, full-centred blooms of late sorts of the incurved section, six weeks must be allowed. The very early ones will open in about four weeks, and some of the single-flowered sorts in rather less time still. During the first stages of the development of the bloom, progress seems slow, and, indeed, it is compared to the progress made after the flower is half open. It is better to give every bud proper time, rather than be obliged to force backward blooms just prior to the date of the show. AVON.

THE DAFFODIL AS A POT PLANT.

BEAUTIFUL and useful as are Tulips and Hyacinths, I think that when well grown the Daffodil even eclipses these favourites as a pot plant. Forcing, as it is generally understood, the Daffodil will not stand, especially in the earlier stages of growth; but by the exercise of a little care very fine flowers may be had several weeks before they appear out of doors. When required for pot culture, the very best selected bulbs should be purchased. These are a few shillings per hundred dearer than ordinary stock, but will produce 25 per cent. to 50 per cent. more flowers, and these of very fine quality. The bulbs may be potted up at any time from August to October—the earlier the better, as a rule. Select clean 6-inch and 7-inch pots, and

allow a fair quantity of drainage. The soil should be of good quality, but not over-rich. A good medium is best fibrous turf, three parts; leaf-mould, two parts; sharp sand, one part. No manure should be used, but a 6-inch potful of bone-meal to each barrow-load of compost is very beneficial.

In potting, try to leave the compost rather loose under the bulbs, but quite firm on the surface. The tops of the bulbs should not be quite covered with the potting soil. After potting, water well; then stand the pots closely together on a hard bottom out of doors and plunge in sand, or even old cutting soil. Ashes, unless they have lain exposed for a couple of years, should not be used, for the sulphur present in fresh ashes is very harmful to young vegetation. Daffodils should be left in the plunging material for quite three months. At the end of that time they should be placed in a cold frame with the sashes well matted for a week or ten days. Afterwards admit plenty of light and air, and at the end of three or four weeks remove to a cool greenhouse. Use no more fire-heat than just enough to repel frost. When flower-buds show a little, more warmth will do no harm; but at no time attempt forcing. When in full growth, a mild stimulant should be given twice a week. While quite a number of Daffodils succeed well in pots, the following are always reliable: Victoria, Emperor, Golden Spur, Henry Irving, Sir Watkin and Mme. de Graaff. C. BLAIR.

Preston House Gardens, Linlithgow.

THE MEDUSA'S HEAD ORCHID.

(BULBOPHYLLUM MEDUSÆ.)

THIS curious plant was exhibited at a recent meeting of the Royal Horticultural Society by E. de L. Quincey, Esq., Oakhurst, Chislehurst, when he received a cultural commendation for a specimen with seventeen heads of its quaint flowers. These are small, but numerous, and are produced in a dense cluster at the apex of the scape. The lateral sepals are lengthened so as to give the spike the appearance of a head with very long, dishevelled hair, which induced the late Dr. Lindley to call the plant the Medusa's Head Orchid. It is a native of Singapore, and is sometimes known as Cirrhopetalum Medusæ, being first introduced by Messrs. Loddiges of Hackney in 1841. Bulbophyllums are for the most part more interesting to the botanist than to the Orchid fancier, but the one named and B. barbigerum never fail to attract attention. Their dwarf habit and preference for a light and airy position render them suitable subjects for Teak-wood baskets, so that they can be suspended from the roof of the warm house. A suitable compost consists of Osmunda fibre and sphagnum moss. During active growth a humid and warm atmosphere is essential, but while at rest cooler surroundings are preferable. S.

THE MEDUSA'S HEAD. AN ORCHID OF SINISTER APPEARANCE.

LILIUM SPECIOSUM.

THE practice of retarding Lily bulbs which is at the present time so extensively carried out enables one to obtain flowering examples of this Lily at any season of the year. It is for retarding purposes one of the best, as the bulbs are rarely affected by this mode of treatment, and will start away freely as soon as placed under conditions favourable to growth. Bulbs that have been retarded are, however, more expensive than those purchased as they arrive from Japan, say, during the three winter months. What is more, if potted and allowed to come on in a natural manner they bloom at a time when many of the summer-flowering occupants of the greenhouse and conservatory are over or, at all events, on the wane, and good examples of this Lily therefore furnish a pleasing variety. Lilium speciosum was first introduced into Europe from Japan about eighty years ago, and soon became generally distributed. It was taken in hand by the Dutch cultivators of bulbs, and has been largely grown by them ever since; indeed, until the Japanese took to sending bulbs of it to this country, the whole of our stock of Lilium speciosum was imported from Holland. Now, immense numbers reach us from Japan, and, as a rule, in very fine condition. The state of these Japanese bulbs shows that they have been grown under very congenial surroundings, and they can be depended upon to yield most satisfactory results the first season after planting or potting. The variety among them, too, is numerous, some of the coloured kinds being particularly rich. One of the brightest of all is Melpomene, whose flowers are of a bright carmine crimson colour, with a white margin.

The bulbs of the best coloured forms are, as a rule, irregular in shape, and have a tendency to produce many stems. So marked is this feature that in sorting over large quantities of bulbs I have never had any difficulty in selecting most of those that would give the richest-coloured flowers. There are some whose blossoms are of a rose tint, corresponding with the roseum and rubrum of the Dutch; but, generally speaking, the bulbs from Japan represent a deeper-tinted class of flower than those from Holland. The Japanese variety Krætzeri, which, by the way, is often sent here under the name of album, is widely removed from the album which has been grown in Europe from the first. In the album of old, and still grown by the Dutch, the bulbs are of a dark chestnut colour, and the stems, leaf-stalks and unopened buds tinged with chocolate. The interior of the flower is white, with occasionally a very slight pinkish suffusion. On the other hand, the bulbs of Krætzeri are yellowish, with stems and leaf-stalks green, the unopened buds, too, being of the same tint. The flowers are large, far more regularly reflexed than those of album, and with a greenish star at the base of the interior. The anthers of both of these varieties are chocolate. One, which reaches us in a limited number from Japan, has bright yellow anthers. This, which bears the name of album novum, is, except for the distinguishing anthers, much in the way of Krætzeri. Fasciated forms, in which the flowers are borne in a large head or cluster, are not much grown now, though at one time they were sent here from Holland in considerable numbers. However, their absence is no loss.

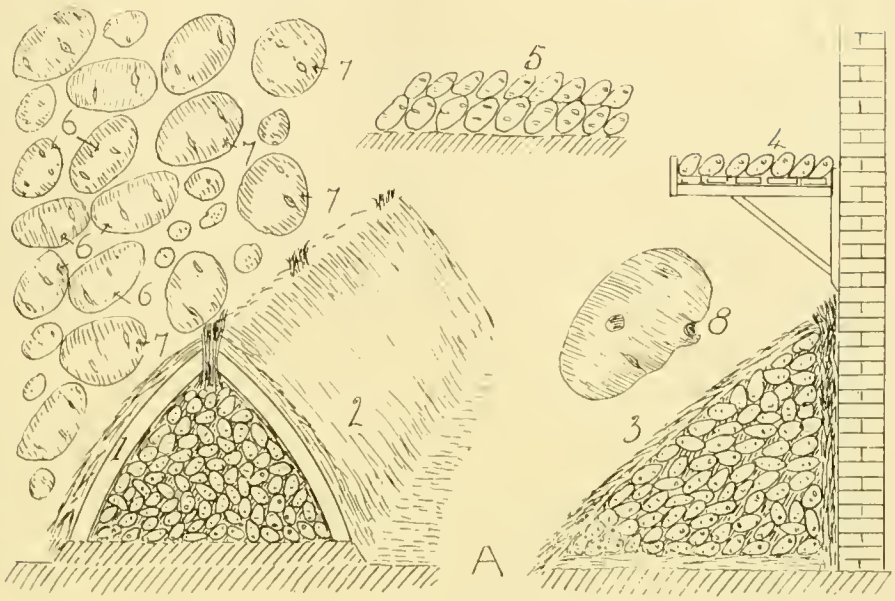
In order to have flowers of Lilium speciosum for the greenhouse or conservatory in August or September, the bulbs should be potted about February, giving them but little water till the roots are active. When potted they may be stood in a frame from which frost is just excluded, or they can be placed out of doors and have one or two mats thrown over them in the event of sharp frost. In this way they will grow sturdy and not come into flower before their normal period, two, in a general way, very important matters. In potting, a good-sized bulb will need a pot from 6 inches to 7 inches in diameter, while large clumps or masses can be formed by putting several bulbs in a large pot or tub. In potting Lilium speciosum it should be borne in mind that it is one of those Lilies that develop a great number of roots from the base of the flower-stem and just above the bulb. For this reason space must be left when potting for a liberal top-dressing as soon as these roots are sufficiently advanced to enable them to obtain nourishment therefrom. During the growing season, all that these Lilies need is to keep them well supplied with water and to give an occasional stimulant as the pots get furnished with roots. Unlike L. longiflorum, aphides or green fly rarely trouble L. speciosum to any extent. The plants may be left out of doors till the flowers are on the point of expanding. H. P.

GARDENING FOR BEGINNERS.

HOW TO LIFT AND STORE POTATOES AND OTHER ROOT CROPS.

AFTER bestowing every care on the growing crops throughout the season, it would be very unwise on the part of the cultivator to neglect them when matured or in a fit condition for harvesting. Not only must the roots be lifted at the proper time, but stored also in the right way; then they will keep sound until all are used in the ordinary way.

Potatoes.—These undoubtedly form the chief crop, being used in summer, autumn and winter—practically the whole year round. The real work of storing commences when the main crops are lifted in September and October. There are several ways of storing the tubers; I will explain two, which will meet the requirements of the majority of cultivators. It is not always convenient to store all the tubers in buildings, so clamps are formed as shown in Fig. A at Nos. 1 and 2. In different parts of the country different names are given, such as Potato hogs, camps and pits. Only tubers intended for eating purposes should be stored in dark places. Select a dry position, one on raised ground, lay down some dry straw, then the tubers on it, building them up, as shown in the sketch, to a ridge. The base will be about four feet wide and the height three feet. Put on a layer of straw, then one of soil, about one foot thick, finally covering all with straw in thatch fashion. At distances of 6 feet apart, insert wisps of straw in the ridge, as shown; these will ensure ventilation and prevent sweating and decay. The soil used for covering will, if taken from the foot of the clamp, leave a channel, with the tubers above on a dry base. In buildings and sheds the tubers may be stored as shown at No. 3, with a padding of straw next to the wall and a simple covering of straw.



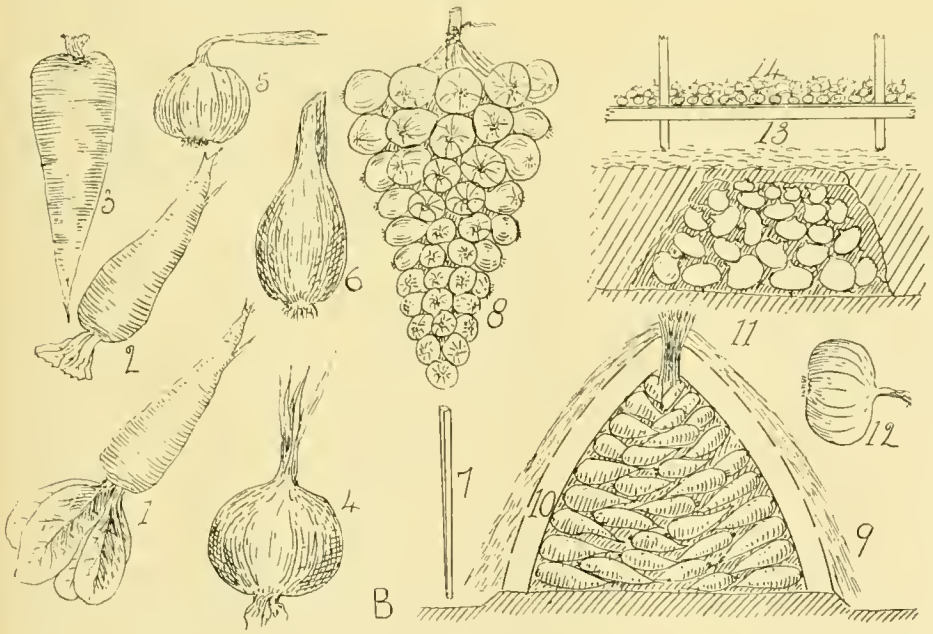
METHODS FOR STORING POTATOES FOR VARIOUS PURPOSES.

Storing Seed Tubers.—These should be exposed to the light and air, the choice ones in single layers on shelves, as shown at No. 4, and those for main crops in double layers, as shown at No. 5. Nos. 6, 6, 6 show the right tubers to select for seed purposes, Nos. 7, 7, 7, 7 being the best ones for kitchen use. The smallest tubers are good for pigs and poultry, and must be stored separately. With these place all bruised tubers similar to the one shown at No. 8.

Other Kinds of Roots.—All roots must be lifted without undue bruising. Fig. B, at No. 1, shows a Beet lifted, and at No. 2, trimmed ready for storing. This is done by simply twisting off the tops—the leaves. No. 3 represents a Carrot trimmed ready for storing, and Nos. 4 and 5 Onions in a fit condition to "rope" or bunch. No. 6 shows a useless bulb. No. 7 depicts a short stick which may be used for "roping," and No. 8 the "rope" complete and ready for suspending from the roof of a shed. The smaller bulbs are first tied to the stick, then the larger ones. Strong strands of straw, twisted, may be used instead of sticks on which to tie the bulbs.

Storing in Clamps.—Carrots and Beet may be stored in open-air clamps in much the same way as Potatoes. No. 9 shows the covering of straw on the layer of soil, No. 10, no inner layer of straw being necessary. Turnips will remain quite fresh for a long time if simply buried in the ground, as shown at No. 11. Pickling Onions, No. 12, will keep well on shelves in sheds safe from frosts. The shelf, No. 13, may be constructed of strong laths or half-inch mesh wire-netting. The Onions, No. 14, being in layers about six inches deep, will keep, as air can pass through the wire-netting to them.

G. G.



ONIONS, CARROTS, TURNIPS AND BEET SHOULD BE STORED AS DESCRIBED IN TEXT.

THE CARE OF CHOICE SHRUBS.

HOLLIES, Evergreen Oaks, Laurels and several other kinds of trees and shrubs cast their leaves during the summer months, and if the leaves are left among the grass, the latter soon becomes thin and coarse. Furthermore, the shrubs seem to suffer through over-dryness at the roots in the case of young specimens rooting in a limited area. At the present time all tall grasses must be cut and cleared away where they have reached the lower branches of the shrubs. We carefully feed our pot plants and many of those growing in borders, but often neglect to even water the shrubs, much less feed them. If they were fed and watered regularly when the soil approached a dry state, they would grow and form fine specimens in about ten years.

SHAMROCK.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Border Carnations layered early in August should now be in a fit condition for lifting and potting. Pot firmly and place in a frame with a good ash bottom.

Planting in Beds.—Where the soil is naturally light and dry, the young rooted layers may be planted in beds. The addition of a proportion of fresh loam, old mortar rubble and wood-ashes is a distinct advantage. Firm planting is necessary, and a sprinkling of soot or lime should be given to ward off slugs, not forgetting during the winter that sparrows pay the plants much attention, so that cotton should be placed over the plants as a preventive.

Pentstemons.—These are largely used for beds and borders, and should be propagated on similar lines to the Calceolaria, as advised in last week's calendar.

Antirrhinums also may be propagated now; but except where an absolutely true stock is wanted, propagation by cuttings is not necessary, as many of the varieties come well—over 90 per cent. true—from seed.

The Pleasure Grounds.

Lawns.—The past dry summer will in many instances have severely tried the grass, and it may be necessary, where it has been severely burnt, to break up the ground and resow. Where trees are not overhanging and it is not necessary to sweep two or three times a week, the present is a really good time to sow grass seed. Where only small patches need renovating, the surface may be well scratched with a rake or fork, adding a little fresh soil; but if large stretches have to be dealt with, more elaborate methods of working the ground must be employed. The old turf should be skimmed off, and a good dressing of manure given to the ground as it is being forked over. Careful treading and levelling are quite necessary, as also is a very fine surface for sowing if the best results are to be obtained.

Plants Under Glass.

Chrysanthemums.—No time should now be lost in getting the whole of the large-flowering section under cover. Those that were placed inside as the buds showed colour should be nicely arranged in a cool house where they can be shaded. Those that are only fairly forward should be placed all together in another house, and the late ones also by themselves. In this way they can be advanced or retarded to suit the requirements of the establishment. Such an arrangement is even more necessary if they are being grown for exhibition. As the plants are housed they should be sprayed with sulphide of potassium as a preventive against mildew; also all pots should be scrubbed. Many of the later-flowering decorative varieties may be left out for a little time longer, but some arrangement should be made so that they can be covered in the event of frost.

Caladiums that have partially dried down may be removed from the stove to a warm pit to complete the drying off process, when they should be stored under the stages of the stove, or at least in a place where the temperature does not fall below 60° to 65°. There are more losses from storing in too low a temperature than from anything else.

Sweet Peas.—A sowing should now be made for early flowering under glass. Sow two or three seeds in a 3-inch pot in a fairly holding though porous soil, placing the pots in a cold frame where they may be covered in the event of very wet weather.

The Kitchen Garden.

Late Peas.—Despite the dry summer, late Peas still look well in some localities, and though these may not be expected to last much longer, every encouragement should be given to the plants to fill those pods that are already set. If the weather is still dry, give a good soaking of manure-water and pinch out the points of the shoots; this should help them considerably.

Dwarf Beans.—These are always in demand, and the crops coming into bearing in the frames should be treated as liberally as the weather permits, it being of no use to feed the plants if the weather is such that they are not growing fairly freely. Climbing Dwarf Beans may be planted now in Melon or Cucumber houses from which the crops have been cleared, and with careful attention will give better crops and over a much longer season than the dwarf varieties. Late-sown batches out of doors that are still cropping nicely should be covered at night in the event of frost, as we often get one or two slight frosts at the end of September or early in October, and no more, perhaps, for two or three weeks.

Leeks.—This is a crop that needs a good deal of feeding, and the later batches should have one or two good soakings of manure-water or a sprinkling of artificial manure when it is raining. Specimen Leeks for November exhibition should receive their final earthing, just keeping the cardboard collars above the soil.

Fruits Under Glass.

Figs in Pots which have ripened their second crop of fruit should be relegated to the cooler houses, or even to a temporary shelter out of doors, where they may remain till the advent of severe frost necessitates their removal to a frost-proof house. Trained trees that are ripening their fruit must be kept moist enough at the root to prevent the foliage and fruit ripening prematurely, which they are apt to do at this season if allowed to get too dry. Fire-heat must be turned on towards the evening, and at all times when the weather is dull and wet, till all the fruit is gathered, when the trees should be gradually inured to plenty of air.

The Hardy Fruit Garden.

Gathering Fruit.—This should be continued as fast as the varieties become fit, but the late varieties of both Apples and Pears should be left on the trees as long as they will hang, or shrivelling will result. Fruit put inside a week or two ago should be carefully looked over, as those fruits that were only just touched by tits or wasps will be found decaying, and if left are apt not only to contaminate those all round them, but those underneath upon which they may happen to drip.

THOMAS STEVENSON,
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Single Rockets.—These sweet-scented plants, treated as biennials, are very telling when planted in masses. They are also very useful in the cut state for filling large vases in early summer. They vary a good deal in colour, and this year I saw a batch of a lovely rich purple shade. The present is a good time to plant them where they are to flower.

Planting Bearded Irises.—The present is a suitable time for planting this interesting and easily-cultivated class of Irises. Here we devote a border to them, with a few dot plants of such things as Tritomas and Hyacinthus candicans to keep up a bit of colour after the Irises have finished flowering. They are not very particular as to soil, provided the ground has been previously deeply dug and has received a moderate dressing of manure. Plant small pieces, as they soon increase, and do not plant deeply; the fleshy rhizomes should not be quite buried. A few plants of different varieties of I. sibirica at the back and some of the dwarf Bearded Irises at the front will redeem the border from monotony.

The Rose Garden.

Bengal Roses.—These are also known as China and Monthly Roses. They are, generally speaking, weakly growers, especially on cold, heavy soils. On this account we have discarded many varieties, and now only grow the following two beautiful sorts, each with sufficient vigour. They are Mme. Laurette Messimy and Antoinette Guillerat. Queen Mab and the Old China Blush have both plenty of vigour, but compared with the other two varieties indicated they are as silver to gold.

Baby Ramblers, or Polyantha Roses, are excellent for beds. White Pet is too well known to require commendation. Jessie and Orleans Rose are two good reds, and Mme. N. Levavasseur is a good third, in the way of Crimson Rambler.

The Shrubbery.

Hypericums.—With the exception of H. calycinum (Rose of Sharon) and H. perforatum (St. John's Wort), the Hypericums do not seem to be much taken advantage of for furnishing the shrubbery. The two indicated are good second-row and front-row plants respectively, but for the centre of a border the three following are excellent: H. androsæmum, H. Ascyron and H. kalmianum. H. pyramidatum and H. patulum are also two good species suitable for the shrubbery.

Preparatory to Transplanting.—Where it is intended to move established subjects either during autumn or in the following spring, the operation will be performed more successfully if the roots are severed all round with a sharp spade at about eighteen inches from the stem.

Plants Under Glass.

Housing Chrysanthemums.—Plants grown for big blooms had better be got under glass without much further delay. The whole stock should, however, be sprayed as a preventive against mildew previous to being housed. Molyneux's antidote is unexcelled for efficacy. It is as follows: Place 2lb. of sulphur and 2lb. of unslaked lime in ten quarts of water and boil for twenty minutes. When spraying, use two wine-glassfuls of the mixture to four gallons of clean cold water. A solution of sulphide of potassium can be used if preferred. Give the newly-housed plants abundance of air day and night for a time.

Overhauling the Heating Apparatus.—As frost may occur at any time now, the whole of the heating apparatus should be inspected to see that all is in good order for the coming winter.

Fruits Under Glass.

Tomatoes in Frames.—Tomatoes in frames or other unheated structures, if not ripe now, will do little good where they are. The remainder of the crop should be picked and placed in a dry, heated structure, and those who can do no better can easily ripen them off on a kitchen shelf.

Winter Cucumbers.—Recently-planted stock for winter supply must have a brisk temperature, say, 65° minimum. Less moisture will now be required, but actual dryness must be guarded against, both in the soil and the atmosphere. As the female flowers appear, they should be artificially pollinated.

Decaying Grapes.—Wherever these occur, they should be promptly removed by means of the Grape scissors.

The Hardy Fruit Garden.

Harvesting.—This work will now be nearly completed, but unripe fruit should be left as long as the state of the weather will permit.

Storing Plums.—Plums have been rather a poor crop this season, but wherever it is desired to retain the fruit as long as possible, this can be done with the Coe's Golden Drop type by the following means: After keeping the fruits in a thoroughly dry place for a few days, wrap them in tissue-paper separately and keep in a dry place.

The Kitchen Garden.

Framing Cauliflowers.—Young plants, the result of the August sowing, should now be lifted and planted a few inches apart in a cold frame. Do not use rich soil. Nothing equals pure fibrous loam for this purpose. Pricked into this, the plants will lift with good balls of roots in spring. Close the frame for a few days and shade, and then keep the lights off whenever the temperature is above freezing point.

Storing Marrows.—Marrows will not do much more good now. Any fruits on the plants, however, if cut now and placed in a cool, dry pantry, will keep for a long time.

Lifting Potatoes.—The bulk of the Potato crop will now be ready for lifting. Tubers intended for seed should be stored in trays in a cool, airy shed. Tubers intended for cooking should be placed in a pit, but the top of the pit should not be covered with earth for a week or two till the surplus moisture has evaporated.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

NARCISSUS ATTACKED BY STEM EELWORM (*J. L. R.*).—The Narcissus bulb is attacked by the stem eelworm (Tylenchus devastatrix). This pest is very troublesome this year, and is liable to attack other bulbs which are planted in proximity to diseased ones.

LILIES OF THE VALLEY NOT FLOWERING (*Chalfont St. Peter*).—The reason of your Lilies of the Valley not flowering this year is in all probability that they were not sufficiently established for them to perfect their crowns for this year's blooming. If the soil is good and they have been well supplied with water during this abnormally dry season, you may reasonably anticipate a good display of bloom next season. The condition of the leafage will, however, give you a good guide as to this, for if the foliage is poor and scanty, you cannot expect a good crop of blossoms. If the leaves show any signs of starvation, a good plan will be to give the bed a top dressing of some fairly rich compost, say, equal parts of loam and well-decayed manure passed through a sieve with half an inch mesh. This mixture may be put on to a depth of half an inch to an inch, according to the present position of the crowns.

PINK AND YELLOW PERENNIALS FOR JUNE AND EARLY JULY (*Miss A. C.*).—The flower sent for naming is Astrantia major, the Greater Masterwort. Good, bright pink and yellow flowers of the height you desire are rather scarce during the months of June and early July, but the following may be helpful to you: Pink—Althæa cannabina, 5 feet to 6 feet; Astrantia helleborifolia, dull pink, 2 feet; Centaurea dealbata, 2 feet; C. montana rosea, 2 feet; Incarvillea Olgæ (not very hardy), 3 feet to 4 feet; Lathyrus rotundifolius, climbing, 4 feet to 5 feet; Spiræa palmata venusta; with some of the Arendsii hybrid Astilbes, such as Vesta, Ceres, with Queen Alexandra and Peach Blossom, which, it well grown, will reach over two feet. Some of the pink herbaceous Pæonies to be found in nurserymen's catalogues will answer well, and Pyrethrums will come in useful early in the period. Really good pinks are scarce, though there are plenty of scarlets and crimsons. The following yellows are suggested: Achillea Eupatorium, 4 feet to 5 feet; Alstrœmeria aurea, 2 feet to 4 feet; Aquilegia chrysantha, 2 feet to 3 feet; Centaurea macrocephala, 4 feet to 5 feet; Coreopsis grandiflora, 2 feet to 4 feet; C. lanceolata, 2 feet; Doronicum plantagineum excelsum (keep this back by taking off spring flowers), 2 feet to 4 feet; Hemerocallises, almost any, omitting H. fulva and varieties and H. aurantiaca major; Iris Monnieri, 3 feet to 4 feet; I. aurea, 2 feet to 4 feet; Linaria dalmatica, 3 feet to 4 feet; Œnothera Youngii, 2 feet to 3 feet; Potentillas, yellow hybrid varieties, such as Gold Kugel, Mont d'Or, Phœbus and Vase d'Or; and Thermopsis montana, 2 feet. Some good pinks will be found among the early section of Phloxes. Chameleon, Isaac House and The Queen may be named. We prefer Impatiens Sultanii, which is a perennial and is propagated by cuttings of strong shoots put singly in small pots and placed in a propagating-frame. Dry sand is the best means of storing the roots of Salvia patens and Commelina cœlestis for the winter.

TREES AND SHRUBS.

WISTARIA AND SECOND CROP OF FLOWERS (*Sir Francis Astley-Corbett*).—It is not unusual for a Wistaria to produce a second crop of flowers during late summer, although your plant appears to be blossoming more freely than most plants do at this period. The dry weather experienced during the last few months may account to some extent for the quantity of inflorescences.

CLIMBERS FOR POLES (*Rubus*).—The two Roses named would be very suitable; also the following sorts—Aimée Vibert, Alister Stella Gray, Bouquet d'Or, Céline Forestier, Climbing Devoniensis, L'Ideal, Rêve d'Or, Reine Marie Henriette, Mme. Alfred Carrière and Maréchal Niel—should do well in your garden. Other suitable climbers are Vitis (Ampelopsis) Henryii, Clematis Viticella and varieties alba and rubra, C. Jackmannii and varieties Snow White and superba, Forsythia suspensa, Jasminum nudiflorum, officinale, primulinum and revolutum; Passiflora cærulea, and Wistaria chinensis and variety alba. Any of the foregoing which grow too vigorously can be kept within bounds by using the knife freely. The Cratægus and Berberis are not suitable. Pyrus (Cydonia) japonica would clothe the pole, but is not suitable to train along wires.

SHRUBS FOR NAME AND TREATMENT (*Bird*).—The specimens sent for determination are as follow: 1, Ceanothus Ceres; 2, Spiræa japonica var. Anthony Waterer; 3, Spiræa japonica var. alba. All may be propagated by means of cuttings of half-ripe shoots inserted in sandy soil in a close, shaded frame during July and August. Cuttings inserted at the present time may take root, but as a rule they prove more satisfactory at the earlier date.

BLACK BLIGHT ON TREES (*G. M. G.*).—The black blight of which you complain is the result of the leaves being infested with aphides earlier in the year. The insects deposit a sticky excrement on the leaves, which are afterwards in a condition to collect and retain dust and other impurities of the atmosphere. The fact of shrubs covering the ground beneath affected trees accounts largely for so many varieties being infested. Probably, had some of the subjects been growing in the open garden, they would have escaped. Evergreens may be cleaned, to some extent by lightly syringing the leaves and branches with strong soft soapy water; then, before they have time to dry, hosing them with a strong force of clear water. It is better, however, that such work should be done earlier in the year, before the covering has become so dense.

FRUIT GARDEN.

SPOTS ON ALICANTE GRAPES (*J. H.*).—Your Grapes are suffering from a disease which in garden parlance is termed "scald." It is caused by too cold a temperature and too damp an atmosphere. To cure it, add brisk heat to the hot-water pipes, give air freely all day, and some at night, too, when the weather is favourable. Do not have the vinery quite closed up at any time in any weather. Free ventilation, with a fair degree of heat in the pipes, should stop the spread of the disease and help to ripen your Grapes in due time.

FIGS NOT RIPENING (*E. M.*).—You do not say whether your Fig tree is growing against a wall or not. Figs in the open ground round Ealing will not ripen satisfactorily except in very hot summers. If your tree is growing against a south wall, there is no reason why the fruit should not ripen if the tree is properly looked after. Your fruit, which you say is at present dry, may yet ripen in the course of next month. Outdoor Figs are not yet ripe. Expose the fruit to more light and air by tying the branches and foliage on one side.

VINE LEAVES FALLING PREMATURELY (*Anxious*).—The case you state is an uncommon one, but we have occasionally experienced the same thing. It is due, we think, to conditions of weather and growth rather than to any disease, and we think you will find that the Vines next year will suffer practically no ill-effect from the occurrence, especially if you will try to encourage a free lateral growth from what there is left of the summer growth, in order to properly develop and plump up the fruit-buds. The summer, on the whole, has been wanting in sunshine, and the growth, especially of young Vines, has been robust, soft and sappy, with often a lot of moisture hanging about them. This, we think, must have been so in your case, and occasional intensely hot gleams of sun striking on the foliage at the time when the Vines were in this condition was too much for them.

PEACH STONES DECAYING (*In Answer to Numerous Enquirers*).—The real cause of stone splitting and consequent decay of the stone is a subject on which, as far as we know, no specific or definite information is available. The disease seems to have a partiality for some varieties over others, notably late varieties of large size, such as Lord Palmerston, Princess of Wales, Sea Eagle and sometimes Noblesse. The disease also, according to our experience, appears to attack the fruit more frequently in unheated Peach-houses than in heated ones or out of doors. We believe the cause to be due to some imperfection or fault in fertilisation, which ultimately develops into this disease. We are fortified in this opinion by the fact that we practically got rid of it on one occasion by adding hot-water pipes to the house, thereby creating a warmer, drier and more favourable atmosphere for setting the fruit while the trees were in bloom. We believe, also, that the trouble may, partially at any rate, be got over by taking special care to have abundance of air admitted to the house night and day while the trees are in bloom in favourable weather, and to protect from hard frost (glass alone is not always enough for this), aided by artificial fertilisation. Some growers think that the trouble is due to insect pests, such as ants or earwigs. These insects are generally attracted to these fruits when affected by this disease, penetrating into them through an orifice in the flesh at the base of the stalk, which usually accompanies this disease. We do not think the insects have anything to do with the cause of it.

KITCHEN GARDEN.

MARROWS UNSATISFACTORY (*O. I. C.*).—Imperfect fertilisation of the blooms is the cause of the young Marrows rotting at the point as you describe. Watch for the female blossoms as they appear, and expose to more light and air (until the Marrow is set) by pushing on one side a few of the grosser leaves until this process is over. Marrows do not like too much wet about their foliage or roots. At the same time, they must always be kept moderately damp at the roots. There are many complaints of Marrows doing badly this year.

MISCELLANEOUS.

A NEW AZALEA DISEASE (*Chathill*).—The Azalea is attacked by the fungus called Exobasidium japonicum, which produces galls on leaves and buds of Azalea indica. It is of recent introduction into this country, and spreads by means of spores, which form the whitish powder on the surface of the galls. They should be picked off and burned as soon as they are noticed.

HOW TO MAKE LIQUID MANURE (*Ignoramus*).—Various quantities of manure may be immersed in water. One peck of cow or two pecks of horse manure may be placed in a bag and the whole immersed in twenty gallons of clear water in a tub or other vessel. It should be left to soak there for three days, being moved to and fro a little twice every day. Use one pint of the liquid to a gallon of clear water, and a similar quantity of the cow-house liquid to a gallon of clear water. Both soot-water and liquid manure should be applied after rain or a watering of clear water from the watering-can.

MAGNOLIA AND PELARGONIUMS (*Eleanor Langman*).—Your Magnolia is apparently the evergreen species, M. grandiflora, and you may carry out the necessary amount of pruning at once. Cut the branch off carefully so that the bark on the adjoining part of the tree is not injured; then pare the edges of the wound with a sharp knife, and cover the wounded surface with coal-tar without delay. Your Pelargoniums, which are infested with mealy bug, may be cleaned with a wash made of soft soap and paraffin at the rate of half a pound of soft soap and half a pint of paraffin to three gallons of water, keeping the mixture well stirred while in use; or with any of the insecticides supplied by nurserymen. Keep the plants isolated for a couple of months, and clean them at least once a fortnight during that time. The mealy bug ought to have disappeared entirely before the end of the two months.

SLUGS IN A MORAINE (*H. E. T.*).—It is most unusual for plants in a moraine to be devoured by slugs, and we know several gardens in which there are a good number of slugs about the rockeries, but none trouble the plants in the moraine. It is possible that they may have come with the material for the moraine, and as hand-picking, which is the most effectual way of destroying them in most cases, cannot well be adopted, we suggest occasional dustings with freshly-slaked lime in the evenings after dark when they are about. This should be repeated several times, with but a short time between the applications. A solution of ammonia is also suggested by some to destroy slugs, but it should not be strong. You might try bait in the form of bran, or Lettuce or Cabbage leaves, examining these after dark and destroying the slugs found on them.

NOTES ON THE ORDER VERBENACEÆ (*A. L., Orleans*).—The Order Verbenaceæ derives its name from one of the principal genera (Verbena) included therein. The chief members of it are of wide geographical distribution over the surface of the globe, and vary from humble herbaceous plants to tall forest trees. To give the history, species and culture thereof would occupy far more space than we have available, but at the same time we will endeavour to comply with your request as far as possible. The garden varieties of Verbena, that is to say, those that are chiefly employed for summer bedding, have originated from some South American kinds which were introduced during the first half of the nineteenth century. These are very readily increased by seeds or cuttings. Lippia citriodora is the well-known Lemon-scented Verbena, and is also known as Aloysia citriodora. The principal species of Vitex is V. Agnus-castus, a native of Southern Europe and known popularly as the Chaste Tree. This is derived from the fact that it was largely used by the Roman maidens for the embellishment of their apartments, it being regarded as a sign of their chastity. It thrives best in this country trained to a wall, where it forms a loose-growing shrub, which, towards the end of the summer, bears spikes of very pale mauve, almost white, blossoms. Prominent among other genera that are included in the Order Verbenaceæ are: Clerodendron, an extensive class of warm-house plants, some of them being shrubby, while others are of a climbing character—the flowers of most of them are showy; Callicarpa, the best-known species of which is C. purpurea, a greenhouse plant which bears a great profusion of small purple berries in autumn; Petrea, one member of which (P. volubilis) requires the temperature of a stove and has long, drooping racemes of lilac-coloured blossoms; Lantanas, pretty free-flowering greenhouse plants, very popular now for bedding purposes; and Caryopteris Mastacanthus, a hardy shrub that thrives best in a warm soil. Its spikes of pretty blue flowers are freely borne in early autumn. From an economic standpoint the most valuable of all verbenaceous plants is the Teak (Tectona grandis), a deciduous tree attaining a height of 120 feet to 150 feet, with a girth of 20 feet to 25 feet. It is a native of India, Burmah and the Malay Archipelago. The timber is extensively employed for ship-building, and is also put to a variety of other uses.

NAMES OF PLANTS.—*J. W., Forsyth.*—Saponaria officinalis flore pleno.——*T. Day.*—The variety is not Tea Rambler but Tausendschön.

NAMES OF FRUIT.—*B. J. B.*—1, Margil; 2, King of the Pippins; 3, Yellow Ingestre; 4, Tower of Glamis.——*E. B., Old Southgate.*—2, Reinette du Canada; 5, Hawthornden; 8, Altriston; 13, Ribston Pippin. All the other labels were detached. Each fruit should be wrapped separately in paper with number enclosed.

MOSS ON PATHS (*A. H. R.*).—The moss on your walks is evidently caused by want of drainage. If you could put a drain below, you would probably get rid of it; but, as you may not wish to do this, you can try a top-dressing of lime, or of soot and salt, or lime and sulphur. Some also try a solution of ammonia sulphate in the proportion of half a pound to a gallon of water. The only other thing we can suggest is to keep the surface constantly loose; but this is not pleasant for a walk. Drainage is really the best cure.

PRUNUS AND GOLD-FISH (*Captain E. F. O.*).—Prunus serrulata flore pleno is stocked by Messrs. Veitch, King's Road, Chelsea, and is priced at from 1s. 6d. to 2s. 6d. a plant. They, however, call it Cerasus serrulata. It is not likely that gold-fish would survive the winter in an outdoor tank of the dimensions you describe. They could, however, be placed in it for the summer. A Water Lily placed in the tank would be an advantage. Charcoal assists in keeping water sweet, but its presence does not do away with the necessity of a frequent change of water.

PARAFFIN TO KILL INSECTS ON MANURE (*N. E. L.*).—The amount of harm done by the paraffin poured on the manure to the plants subsequently to be grown would not be likely to be very great if some time elapsed between the treatment and the use of the manure; but it would be likely to interfere with the proper decay of the manure in the heap. Why not cover the heap with a layer of garden soil? Sulphate of ammonia for the treatment of a lawn should be used at the rate of 1½cwt. to the acre. For a lawn 100 feet by 50 feet, 18lb. to 20lb. would be sufficient; more should not be used.

LEAF-MOULD FOR HEAVY SOIL (*Alfar*).—In our opinion you may safely use the leaf-mould for lightening your very heavy soil, but at the same time we should reject any of the Pine leaves that you possibly can. This does not mean that you are to take extraordinary precautions to sort them out, but rather to give preference to the leaf-mould from spots where the Pine leaves are least numerous. As clayey soil is greatly benefited by breaking up and turning, we should advise that the leaf-mould be applied this autumn and well dug in; then in the spring, before planting, it should be again turned over and well broken up. The name of the Orange Lily is Lilium croceum, a very fine border Lily, at its best, as a rule, during the latter part of June and the first half of July.

LETTUCE FOR WINTER IN FRAMES (*J. R.*).—The best varieties to grow for this purpose are the Stanstead Park Cabbage Lettuce and the Black-seeded Bath Cos. The seeds should be sown at once (it would have been better had they been sown a fortnight ago) in a cold frame in fine, light, friable soil, keeping the lights off the frame as long as the weather is fine. As soon as the young plants are 2 inches high, transplant into other frames (previously prepared as to soil like the other) 8 inches apart each way. Let the plants be exposed to the weather day and night while it is favourable, as the hardier the plants are grown the better they will stand the winter. The seedling plants in the frame should be thinned out to 8 inches apart. Should there be any plants left over after planting the frames, let these be planted in the open quarters of the garden at the same distance apart as in the frames. These will survive the winter, unless it should prove to be very severe, and turn in early and useful in spring. During severe weather in winter those which are in frames must be protected with mats or some other covering material at night; but they must have fresh air every day if possible, or they will damp and rot away.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

IN addition to the usual fortnightly exhibition, there were competitive classes for vegetables and Dahlias at Vincent Square, Westminster, on Tuesday last. The hall was filled throughout, the vegetable classes being well contested, while massive banks of Dahlias and Michaelmas Daisies created bright autumnal colour scenes. It was pleasing to see Mr. John Heal back again after his long illness.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. G. Reuthe, W. P. Thomson, J. W. Moorman, C. T. Druery, W. J. James, C. E. Pearson, G. Gordon, J. Green, E. A. Bowles, H. J. Jones, A. Turner, T. Stevenson, J. T. Bennett-Poe, R. Hooper Pearson, W. Howe, W. Cuthbertson, F. Page-Roberts, W. G. Baker, J. W. Barr, B. Crisp, J. Jennings, R. C. Notcutt and C. Dixon.

Mr. Ernest Ballard, The Court, Colwall, Herefordshire, staged a fine lot of seedling Asters, all raised at Colwall. Numerous double-flowering varieties were shown, of which Cloudy Blue, Nancy Ballard, Glory of Colwall and Beauty of Colwall were all grand. Some of the finest seedlings were unnamed.

Another grand exhibit of Asters came from the Wargrave Plant Farm, Limited, The Arcade, Liverpool Street, E.C. This exhibit contained such fine varieties as Amellus, Stella, aeris, Beauty of Colwall and Saturn, while the small-flowered ericoides, Clio, cordifolius, Ideal and Virgin Queen were shown in the height of perfection.

Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, showed their new Salmon King Carnation, of good form and delightfully fragrant, together with Enchantress, Supreme, Empire Day and other well-known varieties.

The Rev. J. H. Pemberton, Havering, Essex, showed his new seedling Roses, Danäe and Moonlight, both of which have often been referred to in our pages.

From Herbert Chapman, Limited, Rye, came a lovely seedling Nerine named Rotherside, with fine orange red flowers.

Messrs. William Cutbush and Son, Highgate, N., put up a first-rate collection of Pentstemons, of which Mauve Queen, Mrs. Baird and Pink Pearl were the pick.

From Mr. James Box, Lindfield, came the beautiful Lilium sulphureum and L. nepalense, also Cimicifuga simplex and Crinum Powellii, making a very interesting though small exhibit.

Phloxes were shown in great profusion by Messrs. W. Wells and Co., Limited, Merstham, Surrey. The most conspicuous varieties were Elizabeth Campbell, Eclaireur, Le Mahdi and Aurora.

Messrs. Allwood Brothers, Hayward's Heath, showed Carnations in bright and perfect condition. The variety Mary Allwood was especially good, while the novelties Yellowstone, Fairmount, Enchantress, Supreme and Rosette are certain indications of the immense improvement among these flowers in recent times.

DAHLIAS.

In Class A, for amateurs, a group of decorative garden Dahlias of all or any sections, 12 feet by 3 feet, was required, and there were three entrants. The first prize of the Royal Horticultural Society's silver cup and the Veitch Memorial Medal was won by the Rev. Arthur Bridge, Worth Rectory, Three Bridges, Sussex, who put up a grand display. A few of his best blooms were Owen Thomas, Leslie Seale and Rosebank Scarlet, all Collarettes; while a fine reddish Cactus variety was named Mary Purrier. A second prize was awarded to Sir Randolf Baker, Bart., Blandford, for a meritorious exhibit; and the Duchess of Albany was the other exhibitor.

In Class B, a group of decorative garden Dahlias of all or any sections, 25 feet by 3 feet, was required, the prize being the 75-guinea challenge cup presented to the Royal Horticultural Society by Reginald Cory, Esq. Here competition was very keen, there being eleven entrants. The first prize was, however, awarded to Messrs. Carter Page and Co., London Wall, E.C., for a superb display, in which all sections were well represented. The following were noteworthy: Collarettes—Negro and Union Jack; Cactus—Mrs. D. Fleming, Australian and Amos Perry; Decorative—Délice, a beautiful rosy pink, and Mme. Lamière; Pæony-flowered—Bayard; and Pompon—Red Indian and Chieftain. Following very closely were Messrs. J. Cheal, Crawley, who presented a splendid lot, one named Victoria being exceptionally good. Other entrants were Messrs. Dobbie and Co., Edinburgh; Mr. J. Emberson, Walthamstow; Messrs. Treseder, Cardiff; Messrs. Warnaar and Co., Sassenheim, Holland; Messrs. Keynes, Williams and Co., Salisbury; Mr. J. T. West, Brentwood; Messrs. T. S. Ware, Feltham; Mr. C. Turner, Slough; and M. V. Seale, Sevenoaks.

Non-competitive groups were few, and the best exhibit came from Messrs. Dobbie, Edinburgh, whose stand contained Collarettes only. They were in the pink of condition, and Goldstern, Queen Anne, Balmoral, Negro, Great Orme and Diadem were especially good.

Mr. J. B. Riding, Chingford, put up a nice lot of blooms, M. Capron, Mont Rose, Negro and Weber being conspicuous.

Messrs. J. Burrell and Co., Cambridge, had eight vases of Cactus varieties, the one named Moreno standing out conspicuously.

ORCHID COMMITTEE.

Present: J. G. Fowler, Esq. (chairman), Sir Harry J. Veitch, Sir Jeremiah Colman, Bart., Messrs. James O'Brien, J. W. Potter, R. G. Thwaites, F. J. Hanbury, A. McBean, T. Armstrong, C. H. Curtis, W. Cobb, J. Charlesworth, W. H. Hatcher, J. Cypher, W. P. Bound, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, W. Flory, R. A. Rolfe, W. Bolton, Gurney Wilson and C. J. Lucas.

In the pretty group set up by Messrs. Cypher of Cheltenham we saw several fine Cypripediums for which the firm is famous. They included Gaston Bultel, Redvers Buller, Niobe, Corona, and triumphans. Cattleya Iris was good, and a conspicuous plant was Oncidium incurvum album.

Messrs. Armstrong and Brown, Tunbridge Wells, were represented by Cattleyas and Odontiodas, the former embracing several fine varieties of Iris, and a few good Lælio-Cattleyas, of which their George Woodhams was specially noteworthy.

Messrs Sander and Sons, St. Albans, displayed a varied exhibit which was rich in Cattleyas and Lælio-Cattleyas, also the choice Coelogyne mooreana, Vanda cærulea and Phalænopsis Esmeralda.

From Messrs. Charlesworth came a few well-grown examples, such as Lælio-Cattleya callistoglossa, with seven nice flowers; Oncidium incurvum, with an aggregate of eight graceful scapes; Odontoglossum xaothotes and other good things.

Messrs. Hassall and Co., Southgate, had a nice lot of Cattleyas, their varieties of Adula and Iris being very effective.

H. S. Goodson, Esq., Putney, sent a large exhibit, very tastefully arranged. It consisted of good Lælio-Cattleyas, such as Myra, also Cattleya pittiana and C. Iris, while Odontoglossum grande was displayed along the front.

FRUIT AND VEGETABLE COMMITTEE.

Present: A. H. Pearson, Esq. (chairman), and Messrs. J. Cheal, W. Bates, J. Basham, J. Willard, Edwin Beckett, W. Humphreys, A. Grubb, A. R. Allan, William J. Jeffries, J. Davis, W. Pope, F. G. Treseder, A. Barlock, G. Reynolds, P. A. Tucker, P. C. M. Veitch, J. Harrison and W. Poupart.

In addition to the well-filled competitive classes, there were a great many exhibits of more than usual interest not for competition. Seldom, if ever, have we seen a finer lot of vegetables than the comprehensive collection staged by Messrs. Sutton and Sons, Reading. To this magnificent display the society's gold medal was deservedly awarded. Almost every conceivable kind of vegetable was represented. Roots such as Onions, Carrots and Parsnips stood out conspicuously, while Cucumbers and Tomatoes in great variety were shown in the same height of perfection, and the foliage of Kale and Beet added materially to the general effect of the collection, which was staged with a masterly hand.

The Right Hon. Colonel Mark Lockwood, M.P., Romford, sent a most interesting exhibit of Egg Plants, or Aubergines. These were shown in pots, the plants being heavily laden with white, purple and yellow fruits. A cultural commendation was granted to the collection, together with the society's silver Knightian medal.

Messrs. Dickson and Robinson were awarded a silver Knightian medal for a meritorious exhibit of their well-known Premier Onion. The bulbs were of fine size, even, uniform and quite firm.

A silver Banksian medal was awarded to the Marquis of Ripon for a good collection of Apples.

A bronze Knightian medal was awarded to Mr. J. H. Potter, Malden, Surrey, for six dishes of Apples.

A creditable collection of vegetables from the Church Army received the society's silver Banksian medal.

In Class 1, for twelve distinct kinds, the Hon. Vicary Gibbs was first with splendidly-grown examples, the Potatoes Superlative and Peas Centenary being excellent. Mr. T. Jones, Ruabon, came second; Mr. F. J. Barrett third; and Mr. H. Keep, Reading, fourth.

In Class 2 the judges did not consider that the conditions set forth in the schedule, *i.e.*, that the vegetables should be in daily use, and possess the qualities most valued for table use by cooks, were complied with, so no award was made. It is difficult to understand the attitude of the judges, as, with the exception of the Carrots in each class, the produce was quite suitable for cooking. The dishes of Gladstone Peas were splendid, and although the Beans and Onions were large, they were of excellent quality.

In Class 3, Brodie Henderson, Esq., Little Berkhamsted, led the way with clean and well-grown examples. T. Bibby, Esq., Shrewsbury, was second; the Right Hon. T. F. Halsey third; and Mrs. Trevor Goff, Basingstoke, fourth.

In Class 4, the Rev. T. McMurdie, Weybridge, secured first place; Mrs. Denison, Berkhamsted, second.

In Class 5, Mr. G. Thorn, Ashford, Kent, was first; and Mr. H. W. Henderson, King's Langley, came second.

In Class 6, Mrs. Jenner, Cardiff, was awarded first prize, exhibiting Excelsior Onion, &c., in good condition; the Hon. Vicary Gibbs was second; and W. H. Myers, Esq., Bishop's Waltham, third.

Classes 7 and 8, for salads, attracted attention from visitors, and in the former the Hon. Vicary Gibbs led the way, followed by Mr. Jones, Ruabon; and in the latter W. H. Myers, Esq., came first; Brodie Henderson, Esq., Little Berkhamsted, was second; and Lord North third. The Endive and Lettuce were very good.

Class 9 was most interesting, and the Hon. Vicary Gibbs gained premier position with dishes of Salsify Giant, Capsicum Golden Dawn, Scorzonera, Kohl Rabi, the Egg Plant and Turnip-rooted Celeriac. Lord North was second, and W. H. Myers, Esq., Bishop's Waltham, third.

There was a good display of Runner Beans (single dishes) Beetroot, Brussels Sprouts, Cabbage, Savoys, a few Cauliflower and Broccoli and Celeriac.

Celery was well represented, the Hon. Vicary Gibbs gaining first prize for white, Mrs. Lewis Davis comm; second, and Mr. Barrett third in the same class. For red the Hon. Vicary Gibbs was again to the front, Mr. H. Keep second, and W. H. Myers, Esq., third.

Several brace of Cucumbers, Marrows, Leeks, Parsnips, Carrots, Turnips and Potatoes completed a most interesting competitive exhibition.

ORCHID COMMITTEE'S AWARDS.

Silver Flora Medals.—Messrs. Charlesworth and Co., Hayward's Heath, for a group of Orchids; Messrs. Armstrong and Brown, Sandhurst Park, Tunbridge Wells, for a group of Orchids; Mr. Goodson, Fairlawn, Putney, S.W., for a group of Orchids; and Messrs. Sander and Sons, St. Albans, for a group of Orchids.

Silver Banksian Medals.—Messrs. Hassall and Co., Southgate, for a group of Orchids; Messrs. James Cypher and Son, Queen's Road, Cheltenham, for a group of Orchids; and Mr. R. G. Thwaites, Streatham, S.W., for a group of Orchids.

FLORAL COMMITTEE'S AWARDS.

Silver Flora Medal.—Messrs. Dobbie, Edinburgh, for Dahlias.

Silver Banksian Medals.—Mr. Ballard for Asters; and Messrs. Wells for Phloxes and Chrysanthemums.

Bronze Flora Medals.—Messrs. Stuart Low and Co. for Carnations; Mr. J. B. Riding for Dahlias; Messrs. Treseder for two Dahlia bouquets; The Wargrave Plant Farm for Asters; and Mr. J. Box for Liliums.

The awards to Dahlias were made by a joint committee of the National Dahlia Society and the Royal Horticultural Society's floral committee.

WATFORD HORTICULTURAL SOCIETY.

THE fifty-seventh monthly meeting of the above society was held on the 12th inst. at the Church Road Schools, Mr. J. Stirton presiding. A paper on "Gathering and Storing of Fruit" was to have been given by Mr. G. Dyke, who wrote regretting his inability to attend. Mr. F. Newman, as he has done on previous occasions, kindly acted as deputy and gave the meeting some very useful and valuable hints on the subject, answering a number of questions at the completion of his paper. Mr. W. Henley read a very interesting paper he had prepared on the subject of "Stove and Greenhouse Plants," and this was also followed by a discussion. Votes of thanks having been accorded to the lecturers and the chairman, the meeting concluded. A fine specimen of Lilium sulphureum was shown by Mr. W. B. Kettle.

THE GARDEN.

No. 2185.—Vol. LXXVII. October 4, 1913.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

An Effective Combination.—Anyone growing the beautiful Belladonna Lily can obtain a very charming effect by planting Commelina cœlestis with it, the beautiful sky blue flowers of the latter blending with the flowers of the Lily. These vary from white to a reddish or purplish hue, and the combination is very pleasing at this time of the year. Both are easily grown, providing they are planted at the base of a warm, south wall.

A Charming Perennial Sunflower.—A very beautiful plant is Helianthus sparsifolia, said to be a hybrid raised by crossing H. rigidus with H. californicus, a double variety. Certainly it is a grand acquisition, with large, deep yellow flowers from 5 inches to 6 inches across, which are carried upon long stems, thereby rendering it a fine subject for cutting and decorative purposes. It is a late-flowering kind, and produces a good display during September and October. It attains a height of 6 feet.

An Attractive Bed for the Autumn.—The Italian Starwort (Aster Amellus) is a very valuable plant for decorative purposes at this season of the year, either as cut flowers or in the garden, and a bed of it or any of its beautiful varieties, such as bessarabicus, Riverslea and latifolia, intermixed with the beautiful Japanese Anemone Whirlwind or any of the other varieties gives a charming effect with very little trouble. Spanish Irises planted between the perennials would give a good display early next summer.

Our Special Rose Number.—As announced in our last issue, we shall publish next week a special enlarged number that will be of more than usual interest to lovers of Roses. Among the contributors will be such well-known experts as Miss Jekyll, Dr. O'Donel Browne, H. R. Darlington, W. Easlea, E. Mawley, E. Molyneux, H. E. Molyneux and George Laing Paul. The half-tone illustrations will be of a unique character, and in addition there will be a coloured plate of two new Roses that have created quite a sensation this year. The price will, as usual, be one penny.

Beautiful Late-Flowering Clematises.—Although the majority of the Clematises are over, there are still one or two flowering that are of great decorative value. Clematis jouiniana, a beautiful hybrid between C. Vitalba and C. davidiana, is undoubtedly one of the best of them. The flowers, which are white, slightly tinged on the outside with lilac, are borne the full extent of the strong, vigorous shoots of this year, being very showy with the deep green leaves. This plant is often listed in this country under the name of C. grata. Then we have the free-flowering C. Flammula, the fragrant Virgin's Bower. This old but beautiful species is also of great value at this time of the year, with its sprays of fragrant, pure white, but rather small flowers, which are borne in great profusion. It is an elegant plant for covering arbours, walls, or large tree stumps. Another sweet-scented species is C. paniculata, from Japan. It is very like C. Flammula, but the flowers are a little larger, and the leaves much coarser and more heart-shaped. All should be in a garden where autumn flowers are valued.

An Effective Bed for Next Year.—A very attractive bed for next summer can be obtained by mixing the graceful Iceland Poppy (Papaver nudicaule) with the beautiful Spanish Iris (I. Xiphium). These can be purchased for a very small outlay, and should be planted now. The seedling Poppies which were sown a little time ago can be pricked out into the bed after the bulbs are in. If English Irises (I. xiphioides) are also mixed in the bed with the Spanish Irises, a longer display of blooms is obtained.

Are New Pentstemons Too Large?—In the course of a recent lecture given by Mr. Bernard Crisp on autumn border plants before the Royal Horticultural Society, the lecturer expressed the opinion that the large-flowered Pentstemon of to-day is less beautiful than the older type. We agree with Mr. Crisp that some of the alleged improvements of the Pentstemon are far too coarse and unwieldy. They are lacking in the delicate grace and outline we thought so beautiful in years gone by.

The Charm of Michaelmas Daisies.—On looking over the hardy plants in our garden last Sunday, after the absence of a week or so, we were rather abruptly reminded that winter is rapidly approaching, the Michaelmas Daisies, which are certain heralds, proclaiming the fact with a riotous profusion of flowers such as we do not remember seeing before. Even though they warn us of leaden skies and sodden soil, we must admit their charm. Early flowers of that giant lilac named Climax are vieing with the tiny white flowers of Perfection, while, near by, Grey Dawn, with tiny mist-coloured flowers, keeps company with the rose-coloured but larger St. Egwin. Truly they are a goodly host that the cultivator of hardy plants should make more use of.

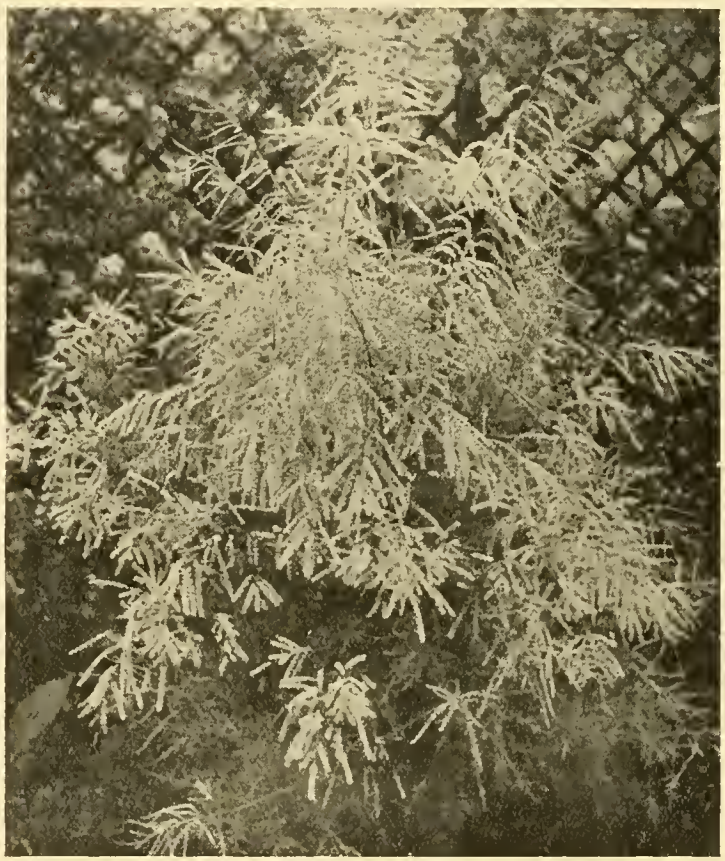
A Plague of Caterpillars.—In many parts of the country there has been quite a plague of caterpillars on Cabbages and other members of the Brassica family this autumn, and many plants that were the pride of their owners a few weeks ago have been reduced to ribs as bare and gaunt as those of a weather-beaten hulk. The caterpillars are mostly those of the white Cabbage butterfly, which lays its eggs usually on the under surface of the leaves. When these hatch, the young caterpillars develop a particularly voracious appetite and gorge until full grown, after which they make for the eaves of buildings or the under surface of railings, where they change into chrysalids, in which state they remain for the winter. Hand-picking and dropping the caterpillars into strong insecticide or neat petroleum is the only real remedy.

CORRESPONDENCE.

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

Pear Tree with Four Crops in One Season.—During the week ending September 20 I saw in a cottage garden at Bawtry, Yorks, a Pear tree which, so I was informed, has exhibited a characteristic probably unknown in the annals of British fruit-growing. For the last four years, the time the occupant had been in the cottage, I was assured the tree had borne three crops and attempted the fourth each season. On the day of my visit the tree had a moderate sprinkling of its third crop this season, while on about half-a-dozen or more growths were trusses just at their setting stage, the actual petals having been knocked off two days before by the heavy thunderstorm experienced over that district, which storm also brought down the first and second crops. I saw all the fruits, and there is a distinct difference in the stage of maturity between each lot of fruit. Those on the tree were about the size of a small Walnut, the second crop the size of a hen's egg, and the first lot about half as large again, or a little larger, and these were approaching a yellowish tinge of ripeness. The tree was a standard and perhaps some 20 feet high. Of course, neither of the following crops attains the size of the first, and are not of very good flavour. The name of the variety was not known. It might be added that the tree has not been pruned since the present owner has known it, also that the crop now setting never gets much further because of the advanced state of the season.—C. T.

A Beautiful Autumn-Flowering Shrub.—I have been much interested in the notes and articles on different plants and shrubs that flower in autumn which have appeared recently in THE GARDEN, and am therefore sending a photograph of what I consider to be the most beautiful of hardy autumn-flowering shrubs. This is Tamarix Pallasii rosea, or T. hispida æstivalis as listed by most nurserymen. The Kew authorities now, I believe, name it T. pentandra. But this confusion of names does not detract in the least from the charm and usefulness of the shrub. As will be seen, the young, erect shoots have the same feathery and graceful appearance as those of the ordinary Tamarisk, and in August these are surmounted by large plumes of rose pink flowers, resembling at a little distance those of Spiræa or Astilbe Queen Alexandra. The shrub illustrated is over five feet high, and at the time the photograph was taken created a great deal of interest. The flower-sprays are ideal for cutting. I believe at Kew the plants are pruned back almost to the ground-level each year, whereby flowering is delayed for a fortnight; but to get large bushes it is only necessary to cut away a little of the unripe wood in spring. Any good garden soil appears to suit this shrub.—E. G. G.



TAMARIX PALLASII ROSEA, A BEAUTIFUL HARDY SHRUB THAT FLOWERS IN AUGUST.

Saxifraga burseriana: Does It Need Sun or Shade?—The controversy over this question arose, I believe, through Mr. Farrer having recommended in one of his books that Saxifraga burseriana should be grown in shade. In one of his letters to THE GARDEN he asked me to bear him out in his statement that the Salurn Klamm is a sunless gorge, and that S. burseriana there grows in silt. I felt that it was unfortunate that I should be drawn into a controversy with a fellow-alpinist and be compelled to contradict him. I replied that as far as I remembered there was a considerable amount of sun in the gorge, and that the plant grew in scree rather than silt. If in this innocent pursuit of the truth my feet came heavily upon Mr. Farrer, it was the exact reverse of their intention, and I apologise for the blunder. Mr. Farrer has since revisited the spot, and is now able "serenely to return to his original proposition" (see page 474). His original proposition was that it was a "sunless gorge." It now is that "after a *certain amount* of sun in the morning, the whole of Salurn Klamm is in the shade of its great walls for the rest of the day." This summer I also passed in the train within half a mile of the Salurn Klamm, and saw the midday sun streaming into the mouth of the gorge. Not only was there a certain amount, but there was a considerable amount. Mr. Farrer has said that the soil in which S. burseriana grows in the Salurn Klamm is silt. He has even said this twice, and that because it *is* so. Why *is* it so? Because Mr. Farrer has said so—and repeated it? And he says that I must really revise my notions of "scree." Scree is *débris* of rocks, shingle, loose stones. Silt is a deposit of mud or fine soil from running or standing water, fine earthy sediment. The material in which we found S. burseriana was *débris* from those very cliffs which failed to make the gorge entirely sunless, and its "coarseness of fine gravel" disqualified it as silt. I fully agree with Mr. Hornibrook and Mr. Farrer that it is vain pedantry trying exactly to copy natural circumstances under the altered conditions of the garden. In fact, I was surprised when Mr. Farrer instanced the alleged sunlessness of the Salurn Klamm to justify his recommendation of shade in the garden. He invited my corroboration, which I was unable to give. If he suffered under my tread, my anguish at the point of his pen has been no less acute. Our agonies being mutual, let us agree to court the lovely Gloria, each in his own way.—CLARENCE ELLIOTT, *Stevenage.*

—— The conclusions of Mr. Farrer anent this fine alpine as given on page 474 interest and please me greatly, and I am in full accord with the idleness of "trying exactly to copy natural circumstances" for this or any other alpine. Indeed, the thing is impossible, seeing that should the cultivator be so clever as to closely imitate the soil and position in which this or any other alpine occurs, he still leaves behind the mountain with its altitude, its pure, rarefied air and the snow—at once a great coverlet in winter and a gigantic water supply in summer—none of which is possible of imitation. Hence, in a more or less slavish attempt to imitate soil and position, the cultivator would succeed in but minor degree at the utmost, and, were the other conditions essential, gardeners would be hopelessly handicapped at the outset. It was my realisation to the contrary that caused me some thirty or more years ago, when a great controversy raged in THE GARDEN concerning alpine plants and soils, to write of the indifference with which alpine plants regarded certain soils, an indifference only equalled by that for altitude and other things. Were it otherwise, the cultivation of alpine plants in lowland gardens would be an impossible thing. As it is, the mountain, the altitude and the snow would appear no more an essential to the successful cultivation of alpine vegetation than is the forest jungle to an epiphytal Orchid or Table Mountain to the "Flower of the Gods." Indeed, I believe I have in the past gone so far as to state that vegetable-life in Nature is very much a creature of circumstance planted by Dame Nature's hand, the plants doing their best to grow and increase after their kind, and presently becoming established there to the exclusion of all besides. In lowland gardens the conditions under which alpines are cultivated are so entirely opposed to those of their native haunts that we can arrive at no other conclusion than that the latter mean but very little to the plants at all. In any case, so large a number so promptly adapt themselves

to their new environment that it might be interpreted thus with little fear of contradiction. And so with the unique Saxifrage, which has given rise to a controversy which cannot but be for good when all is said and done. Indeed, it cannot but be helpful to beginners when so good an authority as Mr. Farrer says that, given an adequate supply of moisture, he finds no difference, "either in health or floriferousness, between specimens grown in shade or in the fullest sun." I most cordially agree. Indeed, the whole of my experience is a complete endorsement of the statement, not only so far as concerns the subject of this note, but with many Primulas and such proverbially shade-loving plants as Ramondia and Haberlea, which, given an adequate supply of water, are as perfectly happy in fullest sunlight as it is possible for plants to be. Such things are almost invariably planted in shade, however, because of our slavish imitation of each other's work. When, however, the cultivator has learnt the lesson that moisture within reach of the root-fibres is more than the equivalent of shade, he may then be tempted to bring supposed shade-loving subjects out into the open, there to provide a feature that was unknown before, and thereby also to add increased interest to some particular phase of gardening. A closing word as to soil. All the burseriana Saxifrages—and many others—have an abundance of fine threadlike, almost silken root-fibres. Root a batch of cuttings in June, and in August you will find root-fibres in plenty, 8 inches or so long, attached to a solitary rosette of half an inch high. Their numbers and their fine silken texture many years ago made me decide to give the plants a very sandy, finely-sifted soil, and the way the roots will ramify in such material is perhaps the best proof of its suitability to these plants.—E. H. Jenkins.

Artificial Manures and Vegetables.—This subject is of great interest, both to the exhibitor who requires size, quality and rapidity of growth, and to the commercial grower who must consider cost of production and subsequent market value. I cannot agree with "W. L." (page 471) that artificials have a detrimental effect on the quality, providing that a properly-balanced ration of potash, phosphates and nitrogen are used according to the requirements of the individual plant and the character of the soil. With regard to Celery, naturally a bog plant, my experience is that even on a heavy soil a fair amount of humus is necessary to retain moisture. Last year was undoubtedly a favourable period for Celery. For exhibition purposes I dug a trench as for Sweet Peas, 2 feet 6 inches deep, with a fair amount of animal manure incorporated, also a small portion of charcoal. The plants were put in the trenches on May 10, fed with equal parts of sulphate of ammonia and high-grade phosphate of potash. On August 4 the average weight was 10lb. a brace. The foliage was bright and of a leathery texture. The plant as a whole was exceptionally solid, and did not turn flabby even when left in the open for several days; the quality was grand. Occasional waterings with lime-water were also given to liberate the potash lying dormant. I also found that when Celery was grown with the usual amount of animal manure in conjunction with nitrate of soda only, the bulk was increased rapidly, with a corresponding decrease in quality, the growth being flabby and the plant drooping badly in the high temperature of the show tent. How frequently we see soapsuds being used in the Celery trenches! It is difficult to make an old gardener believe there is no manurial value there, the only advantage being derived from the water. The only alkali present in a hard soap is soda, often in the form of both caustic, carbonate and silicate, in conjunction with fatty acids and resin acids, which are a bugbear in the soil. As to the *excessive* use of artificials, I do think that certain vegetables will lose their keeping qualities, which I presume must be owing to the rapid growth and premature ripeness causing an early decay. I noticed Celery, especially white, also Onions, affected the most; but large Leeks were in good condition as late as April. Undoubtedly highly-concentrated chemicals in inexperienced hands are a positive source of danger; but to obtain size and quality, my choice is animal manure in conjunction with suitable artificials and plenty of lime.—Fred W. Wait, *Lowdham, Notts.*

—— In answer to "W. L.," I can quite understand that Celery when grown with artificial manures (used discriminately) and without animal manures may be better in quality and, in fact, may be better in every respect than when grown entirely by the aid of animal manures. "W. L." writes freely about chemical and artificial manures (a vague term), but I find only two mentioned by name. Also, I can quite understand Onions and other crops being affected adversely as regards their keeping properties by the misuse of nitrates in any form; but when used judiciously in conjunction with other artificials I have never experienced any trouble in keeping crops. In agriculture, as "W. L." suggests, harmful effects have been experienced by many who have used nitrate of soda for hay crops; but I know that in many instances if the owner had known or had taken the trouble to find out beforehand the quantities of soluble and insoluble plant foods contained in the soil, and then to have endeavoured to have made up any deficiency by applying chemical manures, any harmful effects would have been avoided, for I have invariably found that where failure or injury, partial or otherwise, has followed the use of artificials, the fault has not been with the manures, but with the users. Nitrate of soda applied alone to any plant in liberal quantities would tend to overbalance the plant's energies into making gross and sappy leaf and stem growth, to the detriment of the health of that plant. Again, I should expect to find on any typical loam that indiscreet applications of nitrates in any form would injure the quality of Potatoes; but on soils deficient in nitrates, soluble or insoluble, the application of nitrates in a prudent manner could only tend to be beneficial. I admit that the ease with which they can be applied tends to make artificial manures dangerous in unskilled hands, yet the case with which they are applied is one of the weightiest recommendations for their extended use; for whereas organic manures generally entail the expenditure of a large amount of labour and time, any chemical manure can be applied in a few minutes, and where labour is scarce and the saving of time in any department is an absolute necessity, this can only result in the general improvement of all parts. This is, I consider, a great incitement to the more extended use of artificial manures.—W. C. C.

FORTHCOMING EVENTS.

October 7.—Royal Horticultural Society's Exhibition at Vincent Square, Westminster. Scottish Horticultural Association's Meeting.

October 8.—East Anglian Horticultural Club's Meeting.

THE FLOWER GARDEN.

ANNUALS FOR FILLING FLOWER-BORDERS.

When flower-borders are newly arranged and the plants placed so as to be right when they have come to their strength, there will be gaps between for the first year. Some may like to crowd the border full at once, but the other way is the better one, allowing space for gradual root growth and securing the best form of grouping. This spacing offers an opportunity for a good use of annual plants. In order to preserve any scheme of colour that may be intended, the hardy annuals that are sown in September or March, and the half-hardy kinds that are put out in May or June, should be of the same colour as the permanent plants. The following lists give the names of some of the most useful and most easily grown, in separate colours, the words "back," "middle" and "front" indicating their place in the border.

White.—Back: Hollyhock, Poppy (double tall), Nicotiana affinis, N. sylvestris, Impatiens Roylei, variegated Maize. Middle: Sweet Sultan, China Aster Mammoth and any tall kinds, Chrysanthemum coronarium, Polygonum Sutton's Gem, Snapdragon (tall), Godetia. Front: Snapdragon Intermediate, Clarkia, Gypsophila elegans, Jacobæa, Alyssum maritimum.

Yellow.—Back: Hollyhock, primrose annual Sunflower, Tropæolum canariense, Snapdragon (tall), Œnothera lamarckiana. Middle: Snapdragon Intermediate, primrose African Marigold, Sweet Sultan, Gaillardia Double Yellow. Front: Mignonette, dwarf Tropæolum, French Marigold Miniature Lemon, African Marigold Dwarf Lemon, Feverfew Golden Feather, Platystemon californicum, Limnanthes Douglasii.

Orange.—Back: Annual Sunflower, French Marigold (tall), Coreopsis Drummondi, C. tinctoria. Middle: Gaillardia picta, Calendula Orange King, Eschscholtzia californica. Front: African Marigold (dwarf), French Marigold Dwarf and Miniature Orange, dwarf Tropæolum.

Pink.—Back: Hollyhock, Lavatera trimestris, Snapdragon (tall), Impatiens glandulifera. Middle: Godetia Double Rose, Scabious, Clarkia, Snapdragon Intermediate. Front: Phlox Drummondi, Hieraceum, Indian Pink, Snapdragon (short).

Red.—Back: Hollyhock, tall Poppy, Ricinus sanguineus, R. Gibsoni, Snapdragon (tall), Atriplex hortensis. Middle: Malope grandiflora, Snapdragon Intermediate, Linum grandiflorum, Alonsoa. Front: Phlox Drummondi, dwarf Tropæolum, Collomia, Snapdragon, Indian Pink.

Lilac and purple.—Back: Tall Poppy, Salvia farinacea, Scabious. Middle: China Asters (tall), Ageratum mexicanum. Front: Collinsia bicolor, Ageratum (dwarf).

Blue.—Back: Convolvulus major, Cornflower, Lupine (tall). Middle: Nigella, Convolvulus minor, Lupinus Hartwegii. Front: Nemesia, Nemophila, Lobelia, Phacelia campanularia.

It will be understood that in the case of annuals that are of many colours, such as China Asters, Snapdragons and Tropæolums, the colour meant is that at the head of each list of plants of the three heights. Good cultivation is, of course, in every case essential, although this must not be taken to mean such heavy manuring as will tend to make the plants grow coarse. G. Jekyll.

BEST SWEET PEAS IN A SCOTTISH GARDEN.

While at no time growing for exhibition, we still like to have good flowers for cutting and for garden adornment. We do not pretend to grow all the novelties, but rather content ourselves with a selection from the best of the older proved varieties, with an occasional new sort that takes our fancy at exhibitions. This has been our best season, for although buds dropped rather badly during June and early July, the plants were at the middle of September over ten feet high and covered with richly-coloured flowers of good size and with fairly long stems. "Fours" have been quite plentiful. It may now be of some little interest if I compare some of the varieties as grown here under identical conditions as to soil, manuring and exposure. If anything, Helen Grosvenor has been better than Edrom Beauty, although both are well worth a place in any garden. Maud Holmes has grown taller and flowered more abundantly than Dobbie's Sunproof Crimson, but the latter gives more "fours." Early in the season Isobel Malcolm was better than Dobbie's Cream, but latterly the positions have been reversed. The former gave most "fours."

Barbara is much larger and a better grower than Stirling Stent, but not so deep in colour. Scarlet Emperor has been very fine indeed, and so has Red Star. The latter is the more brilliant in the bunch. Asta Ohn was better than Frank Dolby. I am sorry I missed Rosabelle this year when selecting, as I saw it very fine in Fife. John Ingman (Dobbie's stock) has been finer than ever before. Lady Miller is very beautiful and a shade deeper than Mrs. Routzahn. The latter has been very fine indeed. Norah Unwin has been the best white, both larger and purer than Etta Dyke. Nubian has outdistanced Othello, producing a large percentage of "fours." Mrs. H. Sykes has been much more floriferous than Elfrida Pearson, but the blooms are much smaller in size. The largest flowers were borne by Hercules. This is a magnificent Sweet Pea, the finest pink I have seen this season. W. P. Wright has been most disappointing. I was so taken with this last year that I purchased three packets of seed, and out of these obtained only about six plants true to name. Even these did but little good, the flowers being small and with a green tinge in them. Constance Oliver, Apple Blossom Spencer and the old Dorothy Eckford have been very good. I hope those who have to grow Sweet Peas under similar conditions to those experienced here will find the above particulars of some use. C. Blair.

Preston House Gardens, Linlithgow.

THE CAMPANULAS OR BELL-FLOWERS.

(*Continued from page* 473.)

C. haylodgensis.—This is a hybrid raised at Hay Lodge, Edinburgh, and is a charming plant, like the yellowish-leaved form of C. Profusion raised by Mr. E. H. Jenkins. It is of trailing growth, and has large, light blue flowers in June. Sometimes a little tender. Increased by division or cuttings.

C. hederacea.—This is really Wahlenbergia hederacea, and a lover of moisture, such as wet ditches. A charming native, raised by division or from seeds. Blue flowers in July and August.

C. imeritiana.—About a foot high, with a spike of purple blue flowers in June. Apparently short-lived in gardens. Rockery, in light soil.

C. isophylla.—A charming, well-known basket or window plant, flowering in June, July and August, and often grown in gardens with grand effect, where it is hardy. Lovely on a wall in either the blue or white varieties, but suffering from wet in winter and requiring a sheet of glass overhead in many places. C. floribunda is apparently a form of this Bellflower.

C. laciniata.—About a foot high, this would be better appreciated were it not a biennial. It has rather handsome blue, open flowers in loose panicles in July. A hot, dry place suits this best. Division or seeds.

C. lanata.—I believe that this is the plant known as C. velutina at the present time, but C. mollis is said to be the same as C. velutina. It has been coming to the front lately, and it will probably do well if young plants are secured and planted in hot, sunny crevices, or in the moraine or wall garden. It has roundish, woolly leaves and graceful, light saffron blooms in July on arching stems. It is said to be a biennial, but this is doubtful. C. l. alba is very pretty.

C. langsdorffiana.—A synonym of C. Parryi and after the fashion of C. rotundifolia, with blue flowers in July. It is being offered as C. Parryi at the present time.

C. libanotica.—I only know this plant by sight, and am not prepared to say much about it. It ought, from its habitats, to be hardy in dry rock gardens or in the moraine. It is a miniature C. persicifolia, about a foot high, and blooms in June and July.

C. longistyla.—Unfortunately, this is a biennial, but it has handsome blue flowers in good spikes in July, and with projecting styles, which add to its effect. Seeds. A dry soil in winter. About a foot high.

C. macrorrhiza.—A charming, rare species, with pretty tufts of leaves and lilac blue rotundifolia-like bells on slender branches in autumn. Capital for the rock garden, on large moraine, or wall garden. Seeds or cuttings.

C. Mayi.—A well-known basket plant and excellent for warm walls, especially where it can be shielded from rain in winter by a sheet of glass. One of the C. isophylla class, and raised by division or cuttings. July.

C. mirabilis.—A plant which excited a good deal of attention some years ago. It has large, blue bells on stout stems in August and September, is about a foot high, is only a biennial, and must be raised from seeds sown in May or June. A pleasing plant, but lessened in value by its biennial habit.

C. mollis.—There is a good deal of confusion about this plant. C. mollis, as I knew it years ago, was simply C. portenschlagiana bavarica, but the present-day plant is after the garganica fashion, with thickly wool-covered leaves and blue flowers, liking dry, sunny places. Division or cuttings. June and July.

C. muralis.—See C. portenschlagiana.

C. morettiana.—A plant after the fashion of a miniature C. portenschlagiana, liking cool, shady limestone rocks and difficult to establish. The flowers are lighter than those of C. portenschlagiana. Seeds, division, or cuttings. June and July.

C. nitida or planiflora.—A charming little miniature with erect stems 6 inches to 9 inches high,

THE NEW PERPETUAL-FLOWERING CARNATION FAIRMOUNT (*Much reduced.*) (*See page* 500).

and rather large, flat, open flowers in July. There are four forms, which are growing scarce. The type is single blue, alba is single white, and there are double forms of each. Grows on flat spots on the rockery or border, and likes some shade. Division.

C. pelviformis. See C. carpatica. S. Arnott.

(*To be continued.*)

THE GREENHOUSE.

RAISING FUCHSIAS FROM SEED.

As Fuchsias are so readily increased from cuttings, there is no reason to resort to sowing seeds for the propagation of any particular varieties, but at the same time the raising of Fuchsias from seeds is very interesting. As a raiser of some of the varieties that are now in general cultivation, I have for many years paid great attention to the subject, and while meeting with some successes, have had many failures. Some of the Fuchsias, which if left alone will bear a great profusion of Cherry-like fruits, cannot be depended upon to produce a single fertile seed, while others whose fruits are of a more unpromising nature may be far more prolific in this respect.

I was first led to take up the raising of seedling Fuchsias by the late Mr. Thomas Todman, who a generation and more ago used to raise not only new Fuchsias, but Azaleas, Pelargoniums, Verbenas and other plants. He pointed out that, as far as his experience extended, having once found a good and reliable seed-bearer, it should be retained for the purpose, and indicated as one of the most useful plants he had a specimen bearing comparatively poor, semi-double flowers with a rosy white corolla. From this, though it was not worth keeping for its own intrinsic merit, he obtained many fine varieties by fertilising the flowers with the pollen of different kinds. Some of the progeny produced quite dark-coloured blossoms. I have endeavoured to find out whether the influence of the male or female parent exercises the greatest effect on the blossoms, but cannot say that I can settle anything to my own satisfaction.

At one time it was considered difficult to cross a variety having a white corolla with a dark one, but this proved with me one of the easiest of all, the progeny bearing corollas of different shades of pink or rose. In habit the seedlings varied considerably, the union of two vigorous-growing kinds often resulting in some comparative dwarfs, and *vice versa*. Among seedlings raised from ordinary green-leaved forms a bright golden-foliaged variety made its appearance, while from large-flowered kinds I raised almost a counterpart of the compact-growing, free-flowering variety Alice Hoffmann. One singular feature seems worthy of being recorded. A fertilised pod yielded only two good seeds, both of which germinated. In foliage, habit and flower the two plants resembled each other so closely that everyone would look upon them as identical, yet, strange to say, the cuttings from one of them took twice as long to strike as did cuttings from the other. Time after time the correctness of this was verified.

In order to save the seed we are sometimes recommended to rub the berries up with dry silver sand, but I prefer quite a different mode of procedure. When the berries are fully ripe, if they are then cut open it is quite easy to detect the fertile seeds, which may amount only to two or three, or even none at all. These can be readily picked off with the point of a penknife and transferred to a piece of blotting-paper; they will soon dry. Although this may appear a somewhat troublesome process, as a matter of fact it takes much less time than when the berries are squeezed to a pulp and mixed with sand.

The seed may be sown as soon as ripe, but I prefer to keep it till the end of February, when it is sown in some well-drained pots filled with a mixture of loam, leaf-mould and sand. These pots are then placed in a gentle heat of 50° to 65°, under which conditions the seeds will soon germinate, and with care the young plants grow away freely afterwards. Many of them will flower the first season, but it is only in the second year that one can form a reliable opinion of their merits. Seedlings raised from the pretty variegated-leaved variety Sunray have invariably come green, while the same results followed its use as a pollen-bearer.

THE NEW PRIMULA VINCÆFLORA SHOWN AT THE LAST MEETING OF THE ROYAL HORTICULTURAL SOCIETY (*Two-thirds natural size*). (*See page* 500).

WINTER-FLOWERING PLANTS FOR THE WARM GREENHOUSE.

The Jacobinias.

Several of the plants now included in the genus Jacobinia have at one time or another been referred to other genera. Matters have, however, been simplified by bringing them all under one head. Some of them are particularly valuable from the fact that they flower during the winter months, when bright-coloured blossoms are appreciated more than at any other season. In the case of some species the flowers are borne in a terminal head or cluster. These are, as a rule, of upright growth, and it is useless to expect them to form bushy plants, as if the top is pinched out in order to encourage the production of side shoots, the plant does not readily break into growth, and, what is more, the weak shoots fail to flower in a satisfactory manner. As a rule, the winter-flowering members of this section, such as J. chrysostephana and J. coccinea, are seen at their best when grown in pots 5 inches to 6 inches in diameter and each carrying three good heads of blossoms. They may then be had well furnished with leaves, which is not the case if large specimens are aimed at. The propagation of all the Jacobinias is an easy matter, as cuttings of the young growing shoots taken as early in the spring as possible will strike root without difficulty if put into pots of sandy soil and placed in a frame where there is a gentle bottom-heat. They need to be shifted on into larger pots when required, and throughout the summer the best place for them is a frame where a fair amount of air can be given, shutting up the lights somewhat early in order to husband the sun-heat.

Of the Jacobinias that flower during the winter months, especial mention may be made of J. chrysostephana, a native of Mexico, which was first distributed about forty years ago under the name of Cyrtanthera chrysostephana. In this species the flowers are of a curved, tubular shape, and so disposed in a terminal head as to form a crown-like cluster. They are of a bright orange colour, and a group of this species in full bloom forms a very striking feature during a dull winter's day.

J. coccinea is in habit and cultural requirements much like the preceding, but the flowers are bright scarlet in colour. It is a native of Brazil.

J. ghiesbreghtiana was formerly known by the generic name of Sericographis. In this the deep scarlet flowers are produced in loose panicles, instead of crowded heads as in the two preceding species. The ovate-lanceolate leaves are quite smooth and of a very rich green tint.

J. pauciflora, under the name of Libonia floribunda, has been extensively grown for many years. It forms a freely-branched, bushy specimen, clothed with small, oblong leaves, and the flowers, which in a good example are exceedingly numerous, are about an inch long, tubular in shape, and in colour scarlet, tipped with gold. It requires careful treatment, otherwise the leaves are apt to acquire a yellowish tinge, when much of the beauty of the plant is lost. In order to keep the leaves in good condition, an occasional dose of soot-water is very helpful when the pots are well furnished with roots.

J. penrhosiensis is reported to be a garden hybrid between J. pauciflora and J. ghiesbreghtiana, and the general appearance of the plant would suggest that such is its origin. It shows more of a leaning towards J. pauciflora, but the flowers have more crimson in their colouring, and the leaves, which are more pointed, are of a deeper shade of green.

Of the other species, J. magnifica, represented by several varieties, is a very striking plant, but its usual season of blooming is during the summer months.

H. P.

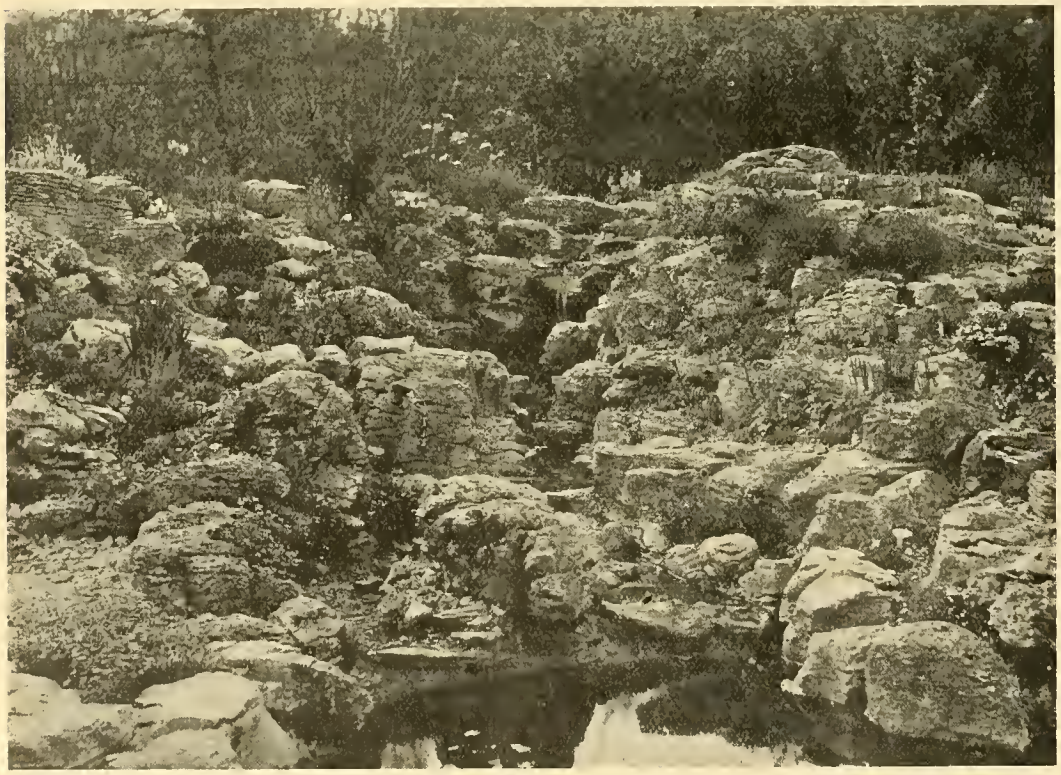
OUR THIRD PRIZE ROCK GARDEN.

DRYNHAM, OATLANDS CHASE, WEYBRIDGE.

THE gardens at Drynham were laid out some four or five years ago by Mr. William Barr, of Messrs. Barr and Sons of Thames Ditton, and present many pleasing features of really natural gardening. The rock garden is a much more recent addition; in fact, a year ago it was not completed, it being purchased at the Royal International Exhibition of 1912, whence it was removed and reconstructed by Mr. J. Wood of Boston Spa. Naturally, on removing it to another site, the design had to be amended or altered to suit the new position, and considerable extensions were made along the banks of the already existing pond or pool, which, in the estimation of the designer and the owner, have added much to its beauty and effectiveness.

1.—THE ROCK GARDEN AT DRYNHAM, WEYBRIDGE, SHOWING WATER INLET WITH ARENARIA BALEARICA AND OTHER PLANTS ON SHELVING ROCKS.

At the time of photographing, it could not be said to have attained its full beauty, as many of the more showy subjects were not in bloom it being planted to provide, as far as possible, a continuous display as far as it is consistent with the natural scheme of construction. The first illustration shows the water inlet; this, by the way, is artificial, but it flows in naturally over a shelving rock, whence it falls with one or two breaks into a ravine or gorge, thence into a pool in the foreground, which again overflows into the larger pool, seen in the third illustration. One or two of the most noticeable subjects are Festuca glauca (Blue Grass), Tiarella cordifolia (Foam Flower), Giant Thrift, Arenaria balearica, Saxifragas in variety (S. Cotyledon and S. longifolius just throwing up their flower-spikes), Ramondia pyrenaica and Sedum sarmentosum. Convolvulus Cneorum, though not quite hardy, had come through the winter well and was showing flower, while Veronica repens, planted almost on the water-level, was a mass of white blossoms. The second illustration is a more comprehensive view of the rockery, as it really includes the first illustration, but it gives a slight idea of the gorge or ravine with the stream running into the pool in the foreground and the shelving rocks on either side. These are planted with an infinite variety of small and interesting subjects. Sempervivums and Sedums in variety are installed with many of the first-mentioned plants in niches on either side of the ravine, while on the more exposed parts of the rockery are four patches or groups of Lithospermum prostratum, Incarvillea grandiflora, Iberis gibraltarica, and Helianthemums in variety, Lysimachia aurea (yellow Jenny Creeper) showing up well against the intense blue of the Lithospermum. Primula sikkimensis and P. cockburniana were flowering well, as also was Gnaphalium



2.—GENERAL VIEW OF THE ROCK GARDEN, WITH WATER FLOWING THROUGH GORGE INTO POOL BELOW.

Leontopodium, this growing in fine masses and being covered with bloom.

On the moraine or right-hand side of the illustration are many minute and interesting subjects, such as Encrusted Saxifrages, Lychnis alpina, Potentilla pyrenaica, Dondia epipactis, Sanguinaria canadensis, Soldanella montana, S. alpina, Ranunculus crenatus, R. amplexicaulis and R. bilobus, Salix pyrenaica, Bellis cærulescens, and Cardamine trifoliata.

The third illustration, looking east, is a continuation of the rockery running down to and by the side of the pool. Here some of the larger masses of the stone are already getting well covered with Saxifragas, Thymus, Erodiums, &c., while Primula japonica, Spiræas, Iris and other moisture-loving subjects are planted by the water-side. On the banks extending beyond and backing up the rockery are planted such subjects as shrubby Veronicas, Cytisuses in variety, Rosa rugosa, Weigela, Abutilon vitifolium, Lupinus, &c., the pool itself being planted with various aquatics, including a good collection of Nymphæas.

3.—CONTINUATION OF THE ROCK GARDEN BY MARGIN OF THE POOL.

TREES AND SHRUBS

LATE-FLOWERING SHRUBS FOR SHADED PLACES.

The Shrubby St. John's Worts.

THE shrubby species of Hypericum or St. John's Wort form an important group, for they blossom during summer and early autumn, a time when flowering shrubs are becoming scarce; and some of them are well adapted for planting in semi-shade, for they thrive even when planted close up to the trunks of large trees, such as Limes and Oaks. One point may be urged against them, viz., the lack of variety in the colour of the flowers, for all are yellow, though there is some difference in shade. There is, however, considerable variation in the size of the blooms and the manner in which they are produced, while a wide difference exists between the habit and stature of the various species.

Propagation.—Taken as a whole, their cultivation offers no difficulty, for, providing moderately good loamy soil is given, they grow and flower freely, while a few give quite good results when planted in sandy ground. It is a mistake to keep the plants too long, however, and as soon as signs of deterioration appear they should be destroyed and a fresh start made with young stock. Young plants are easily raised, for seeds collected in autumn and sown in sandy soil indoors during early spring vegetate quickly, and nice plants are produced in the course of the succeeding summer. Many of the kinds may also be increased by means of cuttings of half-ripe wood inserted in pots of sandy soil in a close frame in July, and such species as H. calycinum are easily increased by division in spring.

Pruning.—One point to be observed in the cultivation of these plants is the necessity for an annual pruning during late winter or early spring. February is a very good time for the work, and it should consist of cutting last year's shoots back quite halfway and removing many of the weaker branches right to the base. In the case of H. calycinum the plants may be cut over to the ground-line, and in this instance the work may be reserved for March. The stronger-growing kinds are benefited by a surface-dressing of well-decayed manure in March or April every second year, especially if the soil is not very good. They do not often suffer seriously from drought, although, as is the case with other shrubs, they appreciate a good watering now and then in very dry weather. Of the many kinds which may be obtained, a selection is appended of those which are suitable for general planting.

H. androsæmum is a European species which is known under the common name of Tutsan. It grows from 1½ feet to 2 feet high, and forms a shapely, wide-spreading bush with broadly ovate or almost elliptical leaves and large heads of small yellow flowers, which are succeeded by showy black fruits.

H. ægyptiacum, H. balearicum and H. olympicum are three dwarf showy species from the Mediterranean region and Asia Minor which are suitable for the rockery. As they are inclined to be tender, they should be given a sheltered but sunny position. The last named is specially worthy of note, for it is very floriferous, and the flowers are large and showy.

H. aureum, a native of the Southern United States, grows 2 feet or so high and blossoms freely; while H. Buckleyi, a dwarf-growing kind from the mountains of the same country, should find a place on the rockery.

H. calycinum is perhaps the most useful of all the Hypericums, for it succeeds in sun and shade, and is an excellent plant for carpeting ground beneath trees. A native of the Orient, it is also found wild in the British Isles, where it grows from 12 inches to 15 inches high, bearing rich golden flowers 3 inches or more across.

H. densiflorum, H. kalmianum, H. galioides and H. prolificum are North American species which grow about two feet high, forming rather dense bushes made up of numerous twiggy branches clothed with small, narrow leaves, and bearing pretty golden flowers in large heads. The botanical differences which separate the species are small, and there is little to choose between them for beauty.

H. elatum is a vigorous-growing plant from the Canary Islands. Attaining a height of from 3 feet to 4 feet, it blossoms freely when planted in full sun, but when planted in shady places it often fails to do itself justice.

H. hookerianum is one of the best of the taller-growing kinds. It is a native of the Himalaya, and grows from 2 feet to 2½ feet high. The oval leaves are somewhat glaucous in colour, and the shapely golden flowers are upwards of 2 inches across.

H. patulum, a native of India and China, is an elegant little bush, bearing large golden flowers, but it is rather tender and delicate, and for general usefulness has to give place to its more vigorous variety Henryi. This grows into a good-sized spreading bush, and bears its large golden blossoms freely.

H. moserianum is a charming hybrid between calycinum and patulum, and it inherits the good qualities of both, while it is much hardier than H. patulum. It grows about a foot high, spreads freely into a plant 1½ feet or 2 feet across, and blossoms with remarkable freedom, the flowers being large and of a rich golden hue. It is an excellent subject for specimen beds or groups in the front of a shrubbery. W. D

THE ROSE GARDEN.

SIMULTANEOUS SPORTS AMONG ROSES.

THERE have been quite a number of instances where a certain variety of Rose has sported in exactly the same way on different plants in widely-separated districts. Doubtless this has been the cause of some duplicates or synonyms, and it becomes almost necessary to enquire if others have the same sport before distributing your own to the public, and so having the same variety under more than one name. A few examples of this occur to me, but we also have the same fact among Chrysanthemums, Pelargoniums and other florists' flowers that are largely propagated by cuttings or grafts. I think it was in the year 1892 that the Rev. G. H. Engleheart explained his theory of the matter to me, and it was very striking. That gentleman's explanation was that a special variety so propagated was really one and the same plant as if they—or the piece of growth removed—were upon the original, and that upon arriving at a certain stage or age they all developed the same peculiarity. He gave a further illustration by saying that where a disease or singularity of mind or body was inherent in a family, it commonly appeared among the members at precisely the same time of life.

I have known of several instances of what were undoubtedly simultaneous sports. There are the cases of Mrs. Harkness and Paul's Early Blush sporting from Heinrich Schultheis, also Souvenir de S. A. Prince and The Queen from Souvenir d'un Ami. The same variety threw a white sport near here at the same time, as nearly as I can discover. The sport from Catherine Mermet—Muriel Grahame—also appeared upon one of our older plants simultaneously to its discovery at Reigate. Dorothy Perkins has produced quite a number of sports remarkably alike, and all the more so if we take into consideration how variable the sports themselves are. I have frequently found a stray flower or two of the true Dorothy Perkins in the midst of White Dorothy, and also in those beautiful blush pink trusses of Dorothy Dennison and Christian Curle. Lately there has been considerable discussion *re* the number of duplicates, which are all too frequent; but those emanating from sports may often have been genuine and distributed with all honesty as being distinct, so far as the raiser was aware. A. P.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Primula vincæflora.—This remarkable species (see illustration on p. 497) was sent by Professor Bayley Balfour from the Botanic Garden, Edinburgh, where it has this year flowered for the first time. The flat, expanded flower is pale violet in colour, deepening in shade in the centre of the flower. It was collected by Forrest in 1905 in the Lichiang Mountains of Yunnan, and introduced through Messrs. Bees, Limited.

Berberis aggregata.—This new Chinese species was shown by the Hon. Vicary Gibbs (gardener, Mr. E. Beckett). It is one of many ornamental shrubs sent home by Wilson from China. It was shown as a richly-berried shrub of spreading habit less than two feet in height. The berries are of a creamy hue, rosy on the sunny side, and produced in immense clusters.

Carnation Salmon King.—An effective and beautiful variety with bright salmon rose flowers. It is perpetual-flowering, fragrant and very free. Shown by the raisers, Messrs. Stuart Low and Co.

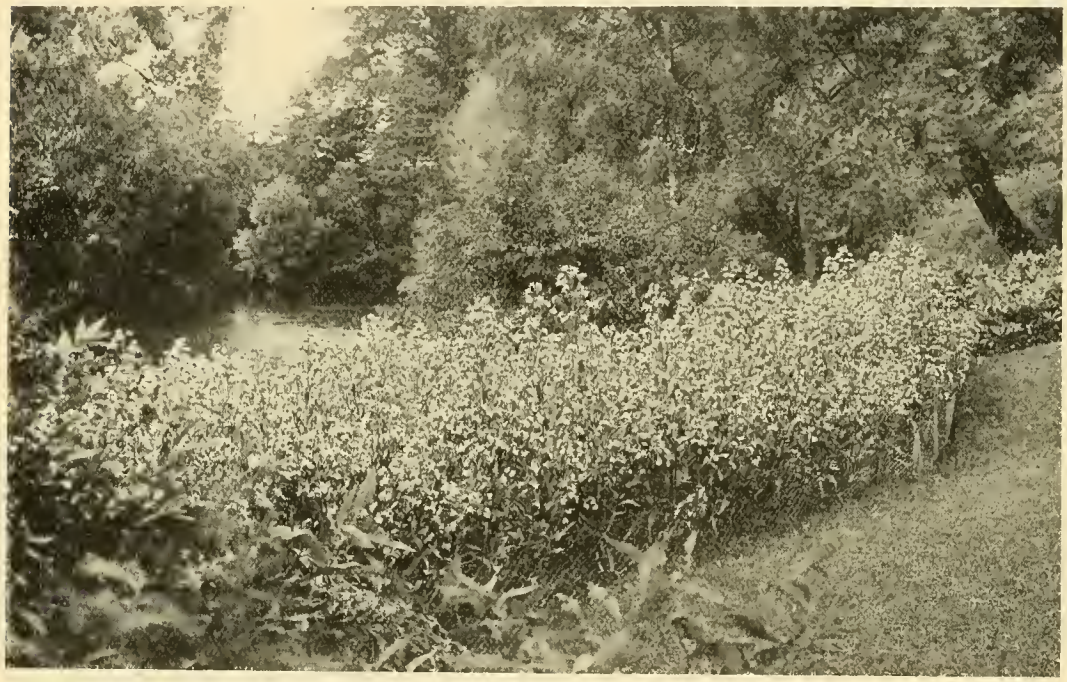
Carnation Fairmount.—This is a grand perpetual-flowering variety, after the colour of Mikado (bluish lilac), but an improvement in many ways. In colour it is almost fascinating, while the flowers are large, full and fragrant. Shown by Messrs. Allwood Brothers.

Chrysanthemum Olive.—A fine, early-flowering border variety of chestnut crimson colour and bronze reverse. From Messrs. W. Wells and Co.

Rose Moonlight.—This variety recently received the gold medal of the National Rose Society. It was shown in lovely form in large trusses of expanded flowers. Shown by the Rev. J. H. Pemberton.

Aster Beauty of Ronsdorf.—This in time will prove a very popular variety. It is a form of Aster Amellus, with blooms measuring 3 inches in diameter. It is heliotrope in colour and less than two feet in height.

Aster Mrs. Frank Penn.—This is a variety of A. Novi-Belgii. Its attraction lies in its wonderful colour, which is bright rosy purple. Shown by Messrs. H. J. Jones, Limited.



A BEAUTIFUL WATER-SIDE GROUPING OF THE ALKANET, ANCHUSA ITALICA DROPMORE VARIETY. HOW TO INCREASE THIS PLANT IS FULLY DESCRIBED ON THE OPPOSITE PAGE.

NEW DAHLIAS.

Awards of merit were given to the following by a joint committee of the National Dahlia Society and the floral committee: Rupert, from Mr. Shoesmith, Woking; Homere, from Messrs. J. Burrell and Co.; Dorothy Hawes, from Messrs. Stredwick and Son, St. Leonards-on-Sea; Reginald Cory and Ruby, from Messrs. Cheal, Crawley; Mrs. J. C. Vaughan and Herzogin von Braunschweig, from Messrs. Warnaar and Co., Holland.

NEW ORCHIDS.

Lælio-Cattleya Armada.—This is a distinct hybrid from L.-C. luminosa and C. fulvescens. It has yellowish sepals and petals, and purplish crimson lip. Exhibited by Sir G. Holford.

Cattleya Cybele Davidson's Variety. — A fine Cattleya derived from the intercrossing of C. gaskelliana alba and C. luddemanniana. The sepals and petals are almost white, and the lip has a yellow throat, then a purplish crimson area, nicely margined with white. From E. H. Davidson, Esq., Orchid Dene, Twyford.

The foregoing were shown before the Royal Horticultural Society on September 23, when the awards were made.

NEW FRUIT.

Damson Merryweather.—It is seldom that a new Damson is put before the fruit committee. This variety, however, is of such surpassing quality that it was unanimously given the high award of a first-class certificate. A coloured plate of this variety appeared in The Garden, October 22, 1911. The trees of this Damson are as vigorous as a Victoria Plum, and the fruits much larger than the largest Damson hitherto known. It has a fine Damson flavour, and even in the young state the trees crop heavily. Shown by Messrs. Merryweather and Sons. This variety was shown at the Royal Horticultural Society's Fruit Show on September 25.

GARDENING FOR BEGINNERS.

THE CULTIVATION OF THE DROPMORE ALKANET (ANCHUSA ITALICA DROPMORE VARIETY).

EVERYONE with a fairly wide flower border should grow the delightful blue-flowered Dropmore Anchusa. It rivals the Delphinium as the best tall-growing blue-flowered perennial. Were the plants only in flower for a fortnight or three weeks, this Alkanet would be worth growing; but as a succession of flowers is maintained for something like three, or even four months, it is of inestimable value for borders and beds. Commencing to flower towards the end of May when about two feet high, the plants in good soil will grow 6 feet or more in height, producing a profusion of blossoms throughout the summer. If the shoots which have flowered are cut out in August, side growths will push up and flower in autumn. Unlike many tall herbaceous plants which produce flowers only near the tops of the growths, the Dropmore Anchusa has flowers practically from the bottom to the top when not crowded round with other plants. (See illustration on opposite page).

ROOT CUTTINGS OF THE DROPMORE ALKANET READY FOR PLACING IN A COLD FRAME FOR THE WINTER.

Root Cuttings form the readiest means of propagation. At this season of the year one or two plants may be lifted to obtain a supply of the thick, fleshy roots. These should be cut into pieces 2 inches to 3 inches; some may be thicker than one's thumb, while others will not be thicker than, or even as thick as, a pencil. Under favourable conditions almost every piece of root will produce a young plant. It is important when cutting up the roots to have the cut surface at the top straight across and the bottom slanting; otherwise, when planting the pieces of root which are the same thickness all the way along, it will be difficult to decide which is the bottom and which the top. For safety, especially when the garden soil is heavy, some growers lay the roots 2 inches apart in boxes of very sandy soil for the winter. Placed in a cold frame, these will start into growth in early spring, and should then, during favourable weather, be planted out where they are to flower. Another method is to lay the roots in soil at the foot of a warm south wall for the winter, planting them out as before recommended in early spring.

Though a hardy perennial, in heavy, wet soils the Anchusa roots often rot off in winter. In such gardens a supply of roots should be obtained from the old plants which have flowered, and placed in a cold frame annually in autumn. As a contrast to this, in light, sandy soils, when the border has been dug over, pieces of the root will grow and push up all over the surface of the ground. The old roots or clumps do not divide satisfactorily, and this method of increase is not worth considering. The plants produce seeds, but as a good many of the seedlings do not come true, propagation by root cuttings is preferable. Those, however, who do not already grow the Dropmore Alkanet, and anyone interested in obtaining variation in colour, may sow seeds under glass in a heated greenhouse during February, or in a cold frame from April to June. The paler variety named Opal, which is grown in some gardens, was obtained in this way.

To aid in securing the succession of flowers which is such a desirable feature of this beautiful blue-flowered perennial, the plants should be liberally mulched with old decayed manure towards the end of May. Staking the leading shoots is desirable during June; otherwise, later in the season the growths will fall about and tying will then be much more difficult. Cut sprays are useful for room decoration, being particularly effective with a few pieces of Gypsophila interspersed.

ROOTED CUTTINGS, SHOWING HOW THE NEW GROWTHS ARE PRODUCED. THESE QUICKLY MAKE LARGE PLANTS.

PRUNING GOOSEBERRIES AND RED CURRANTS.

In districts where birds are not troublesome, the early pruning of Gooseberries and Currants is advisable. A number of years ago I pruned a Gooseberry bush in a large plantation, just one bush, at an early date, leaving the remainder to be pruned the following spring. The new shoots on the autumn-pruned bush grew very strongly and early, and, of course, the berries were large.

If the Gooseberries are intended for exhibition, the pruning of the branches must be rather more severe than in instances where the crop is intended solely for home consumption. In the first case leave the branches quite 6 inches apart; prune the side shoots back to two buds from the base if these branches grow from spurs, and to three buds if they grow from main stems. The leading shoots must be cut back to half their length. The same system may be applied when pruning Red and White Currants.

If pruning be done to form bushes for bearing general crops of fruits, then the main branches should be left about four inches apart; but the side shoots must be cut back as advised in the case of pruning for exhibition fruit. The leading shoots, however, need not be cut back more than one-third their length. I refer, of course, to shoots made during the current year. Always prune to a bud pointing outwards and upwards; then the new shoots, especially the leading ones, grow in an upward direction, and so improve the form of the bush and keep the branches from being weighed down by the quantity of fruit. B.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Rose Garden.

Planting Fresh Beds.—Readers who intend planting fresh beds this season would be well advised to get the ground or beds prepared as early as possible, as early planting, I feel assured, is a great factor towards the ultimate success of the plants.

Preparation of the Soil.—Fairly deep trenching and plenty of manure well below the surface are quite essential, with a sprinkling of bone-meal in the top spit, while the addition of some clay or very heavy loam to the lighter soils is a distinct advantage. But with present-day varieties the necessity of heavy soil to ensure success is not so marked, as even on very light soils, well manured, excellent results can be obtained.

The Flower Garden.

Stock Plants of tender subjects should be lifted as soon as there is danger from frost, and after potting should be well watered in. Though it may not be necessary to place them in the houses at once, they should be placed in the frames or under a temporary shelter, removing them to the houses as soon as the more particular occupants have been allotted their various positions for the winter.

Clearing the Beds.—Presuming that the weather conditions are such that it is not advisable to leave the occupants of the beds out any longer, a commencement should be made to clear them, and, where spring bedding is practised, the sooner the better, as bulbs and other plants employed do all the better if they are planted fairly early. This double planting (for a spring and a summer show) takes a great deal out of the soil, and I find it best to manure in the autumn rather than the spring.

Plants Under Glass.

Salvia splendens.—This showy subject should be housed at once, giving the plants as much room as possible between them, or they are apt to draw up rather quickly. The latest batch which may have had the points of the shoots removed recently might still be left out under a temporary shelter, but as they are easily damaged by frost, no undue risks should be taken. Plenty of water will be required after housing, and one or two feedings of artificial manure will, or should, ensure good flower-spikes.

Zonal Pelargoniums.—If not already housed, these should be put inside at once. Shelves or stages near the glass are the best places for these plants. The foliage this season is fairly hard or ripe, and it may be advisable to spray between the pots for a few days after housing, or a loss of foliage may result from the drier atmospheric conditions. All the light and air possible should be given these plants, giving no fire-heat till frosts or extra cold weather makes it a necessity, or until the presence of the bloom makes it necessary to maintain a drier atmosphere.

Azalea indica.—Those plants that may have been removed outside to mature their wood should be placed under cover again, giving the plants a spraying with an insecticide to ensure they are free of thrip. Careful watering is necessary during the winter, and though they do not like an excess of water, if once they become dry it will possibly result in a great loss of foliage.

Primulas that may have been growing in cold frames should be removed to pits or houses where a little heat may be turned on during bad weather or cold nights. The species P. malacoides may still be kept in a cold frame providing the weather keeps dry, but too moist an atmosphere often causes damping of the foliage, especially in large plants.

The Kitchen Garden.

Late Potatoes that may still be in the ground should be lifted at once, choosing a dry day for the operation. Leave the tubers to dry as long as possible before storing. Where shed-room is available, they are best stored under cover, where they can be picked over during bad weather. Failing this, they should be pitted in as dry a position as possible. In this latter case they must be very carefully picked over in case of disease, as they often rot wholesale if pitted without very careful attention in this respect.

Spring Cabbage.—This is a very important crop, and planting should be done at once, selecting a piece of ground that has been well manured for a previous crop. Light soil should be made fairly firm before planting, or the soft growth made on such soil may easily be damaged by frost later in the season. The very early varieties need not be planted too far apart, but rather more space should be allowed for the later varieties.

Hardy Fruit.

Root-Pruning.—As the bulk of the fruit is gathered, attention should be paid to those trees that are not fruiting satisfactorily, owing probably to over-rampant growth. It is not of much use pruning such trees, as the more one prunes, the more rampant is the growth the following year; hence the necessity for root-pruning.

Large Trees should be taken in hand first; and though one often sees it advised to do one side or half round the tree one season and the other half the next, I do not believe in it. I would rather sacrifice a crop for one year if it is to ultimately result in good crops of fruit. The only reason for doing it is because the tree is not making sufficient fruiting wood, so there is very little sacrifice, if any. By doing this early and by getting well round and under the trees, afterwards placing some good soil in close proximity to the pruned roots and preserving as many of the young fibrous roots as possible, the trees have a chance of making quite a lot of young roots before the depth of winter, and so very little check results except that less growth is made the following season, which is the one object aimed at. Such large trees sometimes need attention as regards watering and mulching if a dry spring follows the pruning, but otherwise I have always found them to come through all right.

Smaller Trees and Cordons are very easily manipulated, and in the case of the latter, young, fast-growing trees should be taken out and replanted every two or three years, and if this is done it will be found that the roots are almost as much under control as those of pot trees.

THOMAS STEVENSON.
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Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Planting Bulbs.—It is rather early yet to remove bedding plants and commence what is popularly known as spring bedding; but wherever bulbs are to be planted elsewhere, they should be got in as soon as convenient. Cottage Tulips, Darwin Tulips, and Spanish and English Irises should all find a place in considerable quantity. These should all be planted about three inches deep, and they may all be planted at from 6 inches to 9 inches apart. Where the soil is at all heavy, it is worth while placing a trowelful of clean sand round the bulbs of dear varieties.

Note-Taking.—Before the impressions of the closing season fade from the memory, notes should be taken of successes and failures, both as regards varieties and their arrangement; and however much it may eventually be modified, a draft arrangement for next season should be made. In the herbaceous quarters, too, plants to be subsequently discarded or shifted should be marked.

Protecting Dahlias.—In certain localities early frosts, succeeded by a spell of mild weather, often occur and destroy the Dahlias. If a piece of scrim or other light material were thrown over them when frost occurred, the blooming period might be prolonged for several weeks yet.

Late Carnation Layers.—These should now be severed from the parent plants and placed in their winter quarters. If afforded the shelter of a light to ward off soaking rains, it will be a great advantage. I favour potting them up, but if this is not done, they should have some nice fibrous loam to root into. This will tell at planting-time.

The Rock Garden.

Autumn Planting.—Any autumn planting should no longer be delayed. Evaporation is slow now, and there is just time for the plants to get rooted before winter sets in.

Preparations for Building.—Where it is intended either to extend the rock garden or to form a new one, preparations must be made beforehand. The procuring of stones is the first consideration, and in dealing with this aspect of the work the welfare of the plants should have precedence to mere spectacular effect. Sandstone and limestone will be found to be generally most suitable, but sometimes one must build with the stones they have. I recently utilised some disused concrete, thickly studded with small stones, with good effect. Soil is the next consideration, and medium loam will suit the bulk of the plants, but peat and rotten rock are also necessary where a varied collection is to be grown.

Plants Under Glass.

Chrysanthemums.—Feeding must still go on, being required more than ever now. Disbudding must also be carried on as the buds are fit for handling, that is, when they are about the size of Peas. Any late varieties which have not set their buds should not be housed till they do so, or they will most likely "go blind." Should sharp frost occur, lay the plants on their sides overnight. They will stand several degrees of frost in that position.

Salvia Heeri.—Those who possess a batch of this attractive spring-flowering scarlet Salvia should give it a light, airy position in the greenhouse and continue to give it liquid manure twice a week throughout the winter.

Bulbs for Forcing.—Batches of these should be potted or boxed up, after which they should be plunged in sand or ashes in a sheltered corner.

Shrubs for Forcing.—As soon as they come to hand, these should be potted up and placed in a cool structure. Place them in as small pots as possible.

Fruits Under Glass.

Strawberries.—Some growers lay the pots on their sides at this season to protect the plants from heavy rains, while others house them in cool structures. Those, however, who have experimented in the matter have found that, other things being equal, the best results have been obtained from plants which have been plunged in the open air in an upright position, and covered with lights only during heavy rains.

Bottling Grapes.—This has no reference to the modern system of bottling fruit by the sterilising process. Where the house is wanted for plants, the bunches can be cut with a piece of the branch attached. This piece of branch should then be inserted into the mouth of a bottle of water, a nodule of charcoal having been placed in the water, and the bottle adjusted on a shelf in a dry, cool room at an angle so that the fruit will hang clear.

The Hardy Fruit Garden.

Root-Pruning.—This work, which was referred to some weeks ago, should now be completed without delay, so that young, fibrous roots may be formed before winter sets in.

Purchasing.—Those about to plant will now be selecting varieties—a very important step. Growers of experience need no advice, and beginners would do well to consult successful growers in their own locality, as so much depends upon soil and situation. For cooking Apples, however, one cannot go far wrong with such varieties as Early Rivers, Ecklinville, Lord Derby, Stirling Castle, Warner's King, Bramley's Seedling and Lane's Prince Albert. For dessert purposes the following are very reliable: James Grieve, Worcester Pearmain, Allington Pippin and Cox's Orange Pippin.

The Vegetable Garden.

Asparagus.—See that the beds are thoroughly cleared of weeds, but do not cut over the plants till they die down.

Brussels Sprouts.—Remove all decayed and decaying leaves, so that the sprouts may enjoy all the available air and light. Endeavour to utilise the sprouts before they lose their solidity, which the more precocious ones often do rather quickly.

Clearing Off Crops.—All summer crops should be cleared away as soon as they are harvested.

Late Cauliflowers.—Varieties like Veitch's Autumn Giant and Sutton's Mammoth will be proving useful. As they develop, break the leaves over the curd to preserve its whiteness and to protect it from frost.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

NARCISSUS FLY (*C. M. D.*).—The grubs attacking the Narcissi are those of the Narcissus fly (Merodon equestris). You will find a good deal of interesting and valuable information about this worst pest of the Narcissus in some of our recent issues. If you can dig up and examine the bulbs immediately, that will be the best measure to pursue, destroying all those affected. The fly appears in May, and may be caught in the manner described in the articles referred to. You should notify the occurrence of the pest to the Board of Agriculture, Whitehall, S.W., as this is one of the scheduled pests, and failure to notify renders one liable to a penalty.

TWELVE SWEET PEAS FOR EXHIBITION (*V. C.*).—It is really a difficult matter to give the names of the best twelve varieties of Sweet Peas, as these vary in different localities and under varying weather conditions, but the following list should supply your needs: Margaret Atlee, Thomas Stevenson, King Edward Spencer, Walter P. Wright, R. F. Felton, King Manoel, Edrom Beauty, Elsie Herbert, Evelyn Hemus, John Ingman, Elfrida Pearson and Hercules. Others almost equally good are Mrs. Cuthbertson, Scarlet Emperor, Princess Mary, Mrs. Hardcastle Sykes, Elfin Taylor, Queen of Norway, Prince George, Florence Wright Spencer, Rosabelle, Barbara, Clara Curtis and Lavender George Herbert. Edrom Beauty and Barbara need shading to exhibit in the best condition.

VIOLAS AND DAFFODILS IN ROSE-BED (*Bedder*).—You may plant Violas beneath your bush and standard Roses for the summer months, but it is advisable to remove them in the autumn, in order that the soil may be rested during the winter. When a surface plant is used in this way, care must be taken to add new soil or manure to the beds during the winter, in order that the soil shall not be unduly impoverished. We do not advocate planting Daffodils in Rose-beds. They are deep-rooting and rank-feeding subjects, and impoverish the ground to some considerable extent. In the event of bulbous plants being required, Snowdrops or Chionodoxas should be chosen; but if Violas are to be used in the summer, it would be better to confine your efforts to them. If too much is attempted, the Roses will be sure to suffer in the end.

SCENTED STOCKS (*H. D.*).—These sweet and popular flowers may be divided into two types, winter and summer. The former should be sown in late July, and planted out in autumn to flower the following summer. These go by the name of Brompton or Intermediate Stocks, and sometimes East Lothian. The other type is the summer Stock, commonly called the Ten-week Stock, meaning that it will flower within this time from the date of sowing the seed. The seed of this should be sown early in April in a frame on a fermented hot-bed with very slight heat, transplanting as soon as large enough to handle into a cold frame in light soil, 4 inches apart. Plant in their summer-flowering quarters about the middle of May. If you have not the convenience for sowing the seeds, you can buy the plants of the colours you prefer by advertising in THE GARDEN.

PLANTS FOR SOUTH BORDER (*Rosa*).—Of the subjects you have hitherto tried for the border, the Phloxes and Gladioli were the least likely to give good results, the former being of a moisture-loving nature, the latter also requiring rather generous treatment. Even the speciosum Lilies would have been happier in some shady spot; hence the selection was rather at fault. You might, however, try Lilium candidum, the well-known Madonna Lily, which delights in a warm position. As it is so cheap and good, you might plant it throughout the whole length of the border near the base of the wall and in unmanured ground. It is a good time to plant it, and if you secure the best bulbs, a flowering would be assured in the coming year. Other Lilies not averse to sun and warmth are testaceum, croceum and the sturdy forms of umbellatum, any or all of which could be planted freely in clumps of a dozen or more. For spring effect you might plant some of the more plentiful of the Daffodils, as Emperor, Golden Spur, Sir Watkin, Empress and ornatus, and, to follow these, masses or groups of Spanish Irises, which are very cheap by the hundred or thousand. These would carry you into July, and if the border were well dug and manured, save for the Madonna Lilies first mentioned, you might add hybrid Columbines, Delphiniums, Gaillardias, Heleniums of sorts, Aster Amellus in variety, A. acris, Sedum spectabile atropurpurea and other flowering plants that would continue the display well into the autumn months. You might also invest in "The Hardy Flower Book" (Jenkins), which gives selections of plants for many positions. Such a book would afford you much reliable information. It may be had from these offices, post free, for 2s. 10d.

DESMODIUM AND GUNNERA (*J. W. M.*).—The Desmodium—provided the plant is not too large or old—might be moved at any time within the next few weeks, or be left until spring. Youthful specimens are not difficult to re-establish, though older ones take less kindly to the soil because of a sparsity of root-fibres. If you have no special desire for disturbing the Gunnera, it might be deeply mulched in its present position. There is no need for disturbing the undug ground, as the roots will quickly ramify into the new soil and afford support to the plant. The mulching could be done without in the least damaging the roots of the plant, whereas to dig among them would cause much mutilation. In your district lifting and dividing might be done at once, while in colder parts of the country these operations are best deferred till spring. As the plant appears to be doing uncommonly well, it is advisable, we think, to let well alone.

TREES AND SHRUBS.

CLEMATIS FOR NAME AND TREATMENT (*W. D.*).—The specimen No. 9 sent for name is Clematis Viticella. The growths made this year should be cut hard back in February. Just how hard back will depend on whether you wish the plant to increase in size and cover more space, in which case you need only cut back the young growths to hard, firm stems.

EVERGREEN SHRUBS FOR A SHADY PLACE (*Bedder*).—It is of little use planting shrubs beneath the branches of a Beech tree, as the shade is too dense to allow of anything thriving satisfactorily in such a position. About the outskirts of a tree, however, the following evergreens are likely to give satisfactory results: Common Holly, Aucuba japonica, common Laurel, Berberis Aquifolium, Tree Ivies and Berberis stenophylla. The ground should be well worked and the Beech roots cut back beyond the edge of the area to be dealt with, in order that the shrubs may have every possible assistance towards establishing themselves quickly.

TREATMENT OF HEDGE (*Broadgates*).—Your Thorn hedge could be improved by layering, that is, chopping the branches more than halfway through near the base and bending them over almost horizontally, securing them in position by means of strong stakes. This method of dealing with old hedges is more frequently practised in some counties than in others, and is very popular in Worcestershire. Not only do the layered branches grow again, but a good deal of young wood is made from below the cuts, which results, in about two years' time, in a strong hedge. When layering is practised, the branch system is reduced considerably at the same time, both for appearance and so that there shall not be too great a strain upon the partly-severed branches. A Holly hedge would be preferable to Laurel in the position you mention, but Laurel would grow into a hedge in about one-fourth the time which the Holly would take. Providing the work is done at once, either Holly or Laurel could be planted; otherwise, should Holly be selected, the work had better remain until the middle of next April. Laurels may, however, be planted at any time when the weather is open throughout the winter. Do not select very large plants. You will find that the smaller plants establish themselves more quickly than large ones, and form a better hedge in the end.

THE GREENHOUSE.

ANTS IN GREENHOUSE (*R. E. C.*).—Trace the ants to their nests and pour boiling water upon them. Carbon bisulphide may also be used with advantage.

PELARGONIUMS (*Ignoramus*).—The Pelargoniums have been attacked by some sucking insect, probably mealy bug. They will most likely produce healthy young growths now; but if not, spray with Quassia and soft soap.

NERINES NOT FLOWERING (*A. S.*).—According to your report of the treatment given the plants, they should have flowered well. The roots may possibly be at fault, in which case shake out the plants and repot at once, following in this and consequent respects the advice given by Mr. Elwes.

CARNATIONS IN WINTER (*Prestbury*).—In order to flower Perpetual-flowering Carnations in winter, a minimum temperature of 45° to 50°, with a light, buoyant atmosphere, must be maintained. They may, however, pass the winter safely in your pit, provided the weather is not too severe and that the watering is carefully done; but under these conditions you cannot expect flowers till the advent of more genial weather.

CYCLAMENS INJURED (*Duns*).—The maggots attacking the roots of the Cyclamen are no doubt those of the Vine weevil (Otiorhynchus sulcatus). The beetles which lay the eggs are common in early summer, and a considerable variety of greenhouse plants are subject to the attacks of the pest. We think the best plan would be to shake the plants out and pick out the grubs; but if it is desired to treat them in the pots, then the only thing likely to do any good will be to pour a few drops of carbon bisulphide into the pots, making a hole about half the depth of the soil for the purpose. This is very poisonous, evil-smelling and explosive; but the plants will not be likely to be injured unless the liquid comes into actual contact with a root, when that will suffer.

FIXING A CHRYSANTHEMUM SPORT (*A. J.*).—Cuttings should be encouraged, or the shoot which has produced the yellow flowers, by pinching off further buds, if any, and by keeping the plant in a favourable position in the greenhouse. The resultant shoots from the upper part of the plant should then be large enough to be taken off as cuttings. In all probability each shoot will have a tiny bud, which should be pinched off before the cutting is inserted. It is impossible to say whether the suckers from the plant will reproduce the sport, but it will certainly be worth your while to put them in and keep the plants separate from the others.

ROSE GARDEN.

ROSE DOROTHY PERKINS CANKERED (*E. F. Campbell*).—There is no known remedy save cutting away the affected growths. If you discard the old wood pretty freely, you will not be troubled much with the disease. You might give the soil a dressing of lime in the winter.

ROSES FOR EXPOSED POSITION (*Miss McN.*).—If you wish for a very strong grower, we suggest Conrad F. Meyer or Nova Zembla. These are Hybrid Rugosa Roses, and are very beautiful. Others of the same race, rather less vigorous, but yet quite suitable for your purpose, are Blanc Double de Coubert, Rose à parfum de l'Hay and Mrs. A. Waterer. Other fine Roses would be Lady Waterlow, Sarah Bernhardt, Mme. Wagram and Florence H. Veitch.

ROSES AND CLEMATISES (*Bedder*).—You will probably find Irish Glory the most suitable Rose to match Irish Elegance and Irish Beauty. Its colour is hardly what you desire, however, the description being "silvery pink, flamed on the back of the petals with crimson," rather than deep crimson. It is very like Irish Elegance in shape and free-flowering qualities. Good kinds of Clematis to suit your purpose are C. Jackmanii superba, purple; C. Ville de Lyon, carmine-crimson; C. Queen Alexandra, mauve; and C. Jackmanii alba, white.

PREPARING A BED FOR ROSES (*Pan*).—You could not do better than add a good dressing of lime or powdered chalk. This will sweeten the soil and at the same time drive out the slugs. Dig the soil 3 feet deep, working in plenty of good manure and lime, the latter at the rate of 8oz. per square yard, or, if you can obtain chalk easier, this at the rate of 3lb. to a square yard. If you use lime, it should be slaked, then evenly distributed and well incorporated with the soil. By preparing the bed at once it would be ready for planting the Roses in November, which is a much better time than the spring.

RUST ON ROSE LEAVES (*H. W. S.*).—The Roses are attacked by the Rose rust fungus (Phragmidium subcorticatum). We doubt whether spraying at this season of the year will do much good, or whether the attack now will do much harm, but as the fungus overwinters on the fallen foliage, it would be a means of prevention of damage to the shoots to collect and burn the leaves as they fall. This may be supplemented by spraying with a rose red solution of potassium permanganate in the spring if the rust should reappear. As it so frequently attacks wild Roses, it is practically impossible to get rid of it entirely.

THE BEST NOVELTIES INTRODUCED IN 1912 (*Trent Bridge*).—We are glad to know that the information we gave you last year has proved satisfactory to you. The following we can thoroughly recommend as being good all-round Roses: British Queen, Comtesse F. Hoyos, C. W. Cowan, Duchess of Sutherland, Earl of Gosford, Frau Ob. Piecq, General Superior à Janssen, George Dickson, Geoffrey Henslow (Hybrid Perpetual), Geoffrey Henslow (Hybrid Tea), Louise C. Breslau, King George V., Mme. C. Lutand, Mme. C. Chambard, Mme. E. Rostand, Maman Turbat, Mrs. D. Baillie, Mrs. Frank Bray, Mrs. Gordon Sloane, Mrs. H. Hawksworth, Mrs. Sam Ross, Mrs. Wallace H. Rowe, Ophelia, St. Helena, Sunburst, Sodenia, Tito Hekekyan and Verna McKay.

SELECTION OF ROSES (*C. A. J. D.*).—As you have such a good collection, you cannot do better than add the following: Reds—George Dickson, President Vignet, Earl of Gosford, Edward Mawley, Mrs. Walter Easlea and Prince C. d'Arenberg. Yellows—Sunburst, Mme C. Lutand, Lady Greenall, Paula, Alice de Rothschild and Cissie Easlea. Other colours—British Queen, Mrs. W. Christie Miller, Mrs. Charles E. Allan, Mrs. Wallace H. Rowe, Countess of Shaftesbury and Willowmere. Add some good top soil from a meadow and bury the turf. A good supply of spent Hops would be useful, and give a handful of bone-flour to each plant as you plant it. Feed in summer with fish guano, very moderately, until the plants are established, but liberally to the older plants.

ROSE BABY DOROTHY (*H. I.*).—We believe there is no relationship between this Rose and Dorothy Perkins. Its correct name is Maman Levavasseur, and was a seedling from Mme. N. Levavasseur, we think. It has been superseded now by such Roses as Orleans. The Dwarf Polyantha Roses originated by crossing Rosa Polyantha simplex with a Tea Rose, the first variety raised being Ma Paquerette. Now, of course, novelties are raised by crossing the various kinds together, although some were raised by crossing the Climbing Multifloras with other climbing Roses. For instance, Eugénie Lamesch originated from Aglaia crossed with William Allen Richardson, and Mme. Norbert Levavasseur, from which such as Mrs. Cutbush and Orleans Rose have originated, was produced by crossing Crimson Rambler with the Dwarf Polyantha Gloire des Polyantha.

SELECTION OF ROSES (*A. W. F.*).—We gladly comply with your request, and from a decorative point of view, or, rather, as garden Roses, we should place the varieties you name in the following order of merit: Chateau de Clos Vougeot, Edward Mawley, Lady Pirrie, Lieutenant Chaure, George C. Waud, Rayon d'Or, Molly Sharman Crawford, Mrs. D. Jardine, Beauté de Lyon, Earl of Warwick, Princesse Mertchersky, Souvenir de M. de Zayas, Leslie Holland, General Schablikine and Mme. C. Soupert. George Dickson is a grand Rose, but we take it this magnificent variety will be more in demand as a show flower. It is certain, however, that everyone will want to possess it. A few first-class recent Roses are Lady Greenall, Melody, May Miller, Countess of Shaftesbury, Rose Queen, Mayflower, Nathalie Bottner, Mrs. George Shawyer, Florence Haswell Veitch, Cissie Easlea, Willowmere, Ophelia, Louise Catherine Breslau, British Queen, Bertha Gaulais and Sunburst. This latter has been splendid lately. It is a "great" Rose in spite of its tendency to produce pale blooms at times. The botanical name of the Christmas Tree or common Spruce Fir is Abies excelsa.

FRUIT GARDEN.

SILVER-LEAF ON PLUM TREE (*Whitehouse*).—The leaves of the Plum sent are attacked by the silver-leaf disease. The shoot on which these leaves occur should be cut out and burned, but it may be well to leave it till next year to see whether it recovers, as it has been bearing well this season. If not, destroy it at once. No certain cure is known for this disease, which is of fungus origin.

SCALE ON PEACH LEAVES (*Peach Tree*).—The Peach foliage has been very badly attacked by the Peach scale insect and by red spider. Spray the trees now with a solution of potassium sulphide, 1oz. to three gallons of water, or, if in a house or case, fumigate twice at an interval of three days. In winter thoroughly cleanse the trees and the walls, removing all the scale insects completely.

PLUM RUST (*M. R. P.*).—The Plum tree is attacked by the Plum rust fungus, Puccinia pruni. This fungus, like many of the other rust fungi, passes part of its life-history on Plums, part, in the spring of the year, on Anemones. It forms little cups on the foliage of the latter, scattered in close groups and filled with spores. These spores spread the disease to the Plum. The removal of all Anemones from the neighbourhood of the Plums would probably reduce the trouble. If this cannot be done, it would be well to spray the trees with ammoniacal copper carbonate at fortnightly intervals, beginning at the end of May.

ORCHARD TREES NOT DOING WELL (*Hortus*).—What you propose to do is on sound lines and excellent. The trenching and clearing of the surface of the ground of the turf over the roots of the trees alone must greatly benefit them. The following formula of artificial manures for Apples, Plums and Pears is by Mr. Edmund Tonks, and is, we believe, scientifically correct and excellent: Superphosphate of lime, 12lb.; nitrate of potash, 10lb.; chloride of soda, 4lb.; sulphate of magnesia, 2lb.; sulphate of iron, 1lb.; and sulphate of lime, 8lb. This should be well mixed together and applied at the rate of a quarter of a pound to the square yard. We presume you wish to have an artificial manure more particularly to mix with the soil while trenching proceeds. Perhaps the following would suit you better (it is effective, we know), reserving the other formula for annual top-dressings: 12lb. of superphosphate of lime and 12lb. of kainit. Add 4oz. to each square yard, mixing it with the soil as trenching proceeds.

APPLES TRAINED ON WIRE TRELLIS (*Wirswell*).—In the first place, the varieties of Apples, of which you sent us such poor samples, are more subject to attacks from red spider than are most other sorts. The foliage, we find, is badly infested with red spider and American blight. In the second place, red spider is very prevalent this year, on Apples especially, on account of the long drought from which we have suffered. You do not say how near the trellis is to the boarding. If it is, say, within 3 inches or 4 inches, then we think there is some truth in what you say as to the boards having something to do with the failure, not because they are creosoted particularly, but because there is not a sufficiently free circulation of air among the branches, causing the air to become too hot. Apples never succeed well when trained against walls or fences. The position is too hot and the circulation of air too restricted for them. The trellis should be at least 6 inches or 7 inches from the fence for Apples. Pears and Plums will stand the heat and confinement better. The Apples, we think, would do better without the fence, leaving only the wire fence, converting it into an espalier trellis. Other causes may be responsible, such as the soil being too poor or light, the border too dry, or the cropping too heavy. You can do nothing to the trees now to rid them of spider and the blight except to burn all the affected leaves as they fall, and towards the end of November or early in December, after the trees are pruned (burn the prunings), they should be sprayed with the following mixture (called the Woburn Winter Wash): Soft soap, half a pound; paraffin, 5 pints; caustic soda, 2lb.; and water, 9½ gallons. This wash will thoroughly cleanse the trees of all pests or growth of any kind with which they may be infested. The way to prepare it is to dissolve the soap in warm water, churn the paraffin into it, and then shake in the caustic soda, mixing the whole well together and applying it with a syringe or garden engine. The hands and clothes must be protected at the time of using it, as it is of a burning nature. The mixture must be kept churned while it is being applied, to keep the paraffin in solution.

PEACH TREE UNSATISFACTORY (*Anxious*).—It is difficult to understand the cause of failure in the cropping of your Peach tree. Your inside border is narrow. Are you quite satisfied that the roots have not suffered from the want of water at any time? The trouble, we feel sure, arises from the tree having received a check of some sort, which affected adversely the functions of the fruit-buds and flowers, ending in imperfect fertilisation of the flowers; hence failure in proper fruit-setting. Never let your tree approach to dryness at the roots, winter or summer. Take a lesson from trees growing outside, which are often sodden in many winters and are certainly never dry. These seldom or ever drop their fruit. Are you careful to keep your tree as cool as possible during the winter, or is the house subject to fluctuations of temperature? This will often account for such failures. Keep your tree as cool as possible, with plenty of air on the house day and night in favourable weather, and let the tree come into bloom naturally without any forcing or excitement. Widen your inside border by 18 inches. Examine the roots in front of the border when they are exposed, and shorten the ends of each. If there are any long, fibreless ones, cut them well back to within 3 feet of their base. Peach trees are often much benefited by root-pruning. We should certainly not destroy the tree. It should go on improving for another twenty years. The following is a good Peach soil: To one barrow-load of good fibrous loam inclining to be of a heavy nature add 2lb. of Thomson's or some other approved artificial manure, a gallon of lime, a peck of brick-ends, broken small (size of a hen's egg), and the same of mortar rubble, broken small. The loam should be broken up with the hands into pieces the size of one's fist, and all mixed well together.

KITCHEN GARDEN.

MANURE FOR CABBAGES (*R. E. C.*).—Use farmyard manure in preparing the ground. When fear of serious frost is past and the Cabbages begin their spring growth, apply nitrate of soda at the rate of 1oz. to the square yard.

INJURY TO LETTUCE (*A. P.*).—The Lettuce is attacked by the root aphis, which is often abundant on this plant, especially in dry seasons. Watering with soot-water may do some good, or you might fork in a little Apterite or Vaporite or some other naphthalene preparation to drive away the insects.

MISCELLANEOUS.

STANDARDS AND HALF-STANDARDS IN FOLKESTONE (*J. E.*).—You do not say whether you mean Roses or fruit trees. If the soil is very sandy where you are, neither would do well unless good loam were carted for them. Apart from soil, and possibly wind, we do not see why standards of either Roses or fruit trees should not do in the district.

CREEPER FOR LOW BRICK WALL (*A. H. R.*).—Escallonia macrantha is as pretty as anything for a wall such as yours, and it can be kept to any height required by clipping or cutting it back. E. exoniensis or E. philippiana is also good. Ceanothus Gloire de Versailles kept to the height desired is also pretty. If you care to form pockets on the face of the wall, you might have some of the trailing alpines, such as Diaothuses, Helianthemums, Campanulas, Arenarias and Androsace lanuginosa.

SIBERIAN CRAB AND OTHER QUESTIONS (*F. B.*).—You may move your Siberian Crab tree as soon as the leaves have fallen. Providing the work is carried out carefully, the tree will not suffer. Your Carnations are evidently suffering from a fungous disease, but it was impossible to judge satisfactorily from the specimen sent. The shoots have probably been injured by wireworms. These may be trapped by burying Potatoes in the soil to a depth of 3 inches and examining them every second day. The only way to eradicate earwigs is to trap them. This may often be done by placing a little hay in flower-pots and inverting the pots on stakes from 2 feet to 4 feet high. The Rose sent for determination is apparently Auguste Barbier. We are at a loss to account for the flowers becoming deformed. As you suggest, the cold spring may have had something to do with it.

NAMES OF FRUIT.—*Tottle.*—Mank's Codlin.——*A. R. Strickland.*—2 and 3, Hawthornden; 4, 5 and 11, Wellington; 6, Braddick's Nonpareil; 7, Ribston Pippin; 8, Bismarck; 9, rotten when received; 10, Cox's Orange Pippin.——*W. B.*—1, Tower of Glamis; 2, Adam's Pearmain; 3, Fearn's Pippin; 4, Cellini Pippin.——*E. P.*—1, Cox's Pomona; 2, Lane's Prince Albert; 3, King of the Pippins; 4, Cellini Pippin; 5, Lady Sudeley; 6, Reinette du Canada; 7, Hawthornden; 8, Cox's Orange Pippin; 9, Wellington.

NAMES OF PLANTS. — *Enquirer, Stamford.* — 1, Teucrium montanum; 2, Dianthus sinensis variety.——*J. G. W.*—1, Polygonum amplexicaule; 2, Campanula punctata; 3, Hibiscus syriacus; 4, Linaria purpurea.——*S. M., Southburn.*—Pentstemon barbata; Rosa Polyantha variety.——*Rev. H. J. De S.*—Cupressus macrocarpa.——*W. Dawson.*—1, Sutherlandia frutescens; 2, Cotoneaster microphylla; 3, Pernettya mucronata; 4, Berberis stenophylla; 5, Escallonia species; 6, Cotoneaster horizontalis; 7, Olearia Haastii; 8, Aucuba japonica.——*H. N.*—A, Lilium auratum; B and C, varieties of Lilium speciosum; D, too poor to identify.——*K. J., Balham.*—The peculiar growths on the Juniper branch are abnormal fruits. The shrub sent for determination is Ledum palustre.——*M. R. H. Allen.*—Azara microphylla.——*Moss.*—Azolla caroliniana.——*Ida H. Jackson.*—A, Festuca ovina vivipara; B, Lycopodium alpinum.——*Purley.*—Senecio tanguticus.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY'S FRUIT SHOW.

The nineteenth autumn show of British-grown fruits was held on September 25 and 26 at Vincent Square, Westminster. The exhibition was notable for the high standard of quality among the Apples, which, although not so highly coloured as in some years, were clean and well finished. Pears, however, were somewhat scarce, but this was in some measure compensated for by the keen competition in the Apple classes. The indoor fruit was of very high quality, the Grapes in particular being fine and well finished.

Division I.—Fruits Grown Under Glass or Otherwise.

Open to Gardeners and Amateurs Only.

The first prize silver cup for a collection of nine dishes of ripe dessert fruit was secured by the Duke of Newcastle (gardener, Mr. G. Barker), Clumber, Worksop, with a well-finished collection of ripe and highly-coloured fruit, consisting of two bunches of Grapes Muscat of Alexandria and the same of Madresfield Court. Pears were well represented by splendid dishes of Pitmaston Duchess and Durondeau; Melon by Emerald Gem, Apples by Cox's Orange Pippin and King of Tompkins' County, and two excellent dishes of Peaches by Barrington and Nectarine Peach. Second, Lady Henry Somerset (gardener, Mr. G. Mullins), Eastnor Castle, Ledbury, who also staged a most creditable display, the Black Hamburgh Grapes being large in both bunch and berry and perfect in colour. The other varieties shown were Apples Cox's Orange Pippin and Rival, Pears Marguerite Marillat and Doyenné du Comice, Peach Devonia and Melon Countess. Third, the Earl of Harrington (gardener, Mr. J. H. Goodacre), Elvaston Court, who also staged a very choice collection, including a dish of Pineapple Nectarine.

Lord Hillingdon (gardener, Mr. J. Shelton) Sevenoaks, Kent, succeeded in taking the first prize and silver cup for a collection of six dishes of ripe dessert fruit. The Grapes were of the highest quality, and all other kinds well grown and highly-coloured specimens, the varieties being Grapes Muscat of Alexandria and Muscat Hamburgh, Peach Lady Palmerston, Apple Cox's Orange Pippin, Fig Negro Largo, and a seedling Melon. Lord Belper (gardener, Mr. W. H. Cooke), Kingston Hall, Derby, was a good second, the varieties staged consisting of Grapes Gros Colmar and Muscat of Alexandria, Melon Hero, Peach Sea Eagle, Apple Cox's Orange Pippin, and Pear Louise Bonne Jersey. C. A. Cain, Esq., J.P. (gardener, Mr. T. Pateman), Welwyn, was awarded third in this class.

The class for six varieties of Grapes, two bunches of each, probably created the greatest interest of the whole show, as the group which won the first prize and silver cup (see illustration) for the Duke of Newcastle, contained two magnificent bunches of Gros Guillaume, which received the admiration and highest praise from every visitor to the show. The bunches were not only large in point of size, but also in berry, the whole being beautifully coloured and well finished. The other varieties shown in this exhibit were Black Hamburgh, Madresfield Court, Gros Colmar, Muscat of Alexandria and Buckland Sweetwater, all of splendid quality and finish. The Earl of Harrington came second with some smaller but well-finished bunches of Muscat of Alexandria and Golden Queen, representing the white Grapes; and Madresfield Court, Gros Maroc, Muscat Hamburgh and Black Hamburgh. The third prize in this class was won by C. Bayer, Esq. (gardener, Mr. E. C. Wickens), Tewkesbury Lodge, Forest Hill, S.E., who showed a most worthy collection.

In the class provided for two bunches of Grape Black Hamburgh, the first prize was awarded to Lord Hillingdon for two well-finished bunches; second, Lady Henry Somerset; third, the Duke of Newcastle.

H. St. Maur, Esq. (gardener, Mr. G. Richardson), Newton Abbot, was successful in gaining first prize for two splendid bunches of Mrs. Pince, the second prize falling to Lady Henry Somerset, who also obtained first for two large and well-finished bunches of Black Alicante, the Marquis of Salisbury (gardener, Mr. H. Prime), Hatfield House, coming second with some good bunches, and W. G. Raphael, Esq. (gardener, Mr. H. H. Brown), Castle Hill, Englefield Green, third.

The Duke of Newcastle gained the leading honours for two bunches of Madresfield Court, the second and third prizes going to the Earl of Harrington and Lord Hillingdon in their respective order of merit.

The first prize for two bunches of Grape Prince of Wales was won by Sir Walpole Greenwell, Bart. (gardener, Mr. W. Lintott), Marden Park, Caterham, this being the only prize awarded in this class.

For two bunches of any other black Grape, Lady Henry Somerset took the premier position with Gros Maroc, the second being awarded to Colonel the Hon. C. Harbord (gardener, Mr. W. Allan), Gunton Park, Norwich, with the same variety, and third to the Marquis of Salisbury with Appley Towers.

Sir Edward Durning-Lawrence, Bart. (gardener, Mr. W. Lane), King's Ride, Ascot, secured the first prize and silver Knightian medal for two bunches of Muscat of Alexandria, Colonel the Hon. C. Harbord coming second, and G. Miller, Esq. (gardener, Mr. J. Kidd), Newberries, Radlett, Herts, third.

In the class for two bunches of any other white Grape, the Duke of Wellington, K.G. (gardener, Mr. A. G. Nicholls), Stratfieldsaye, won first place with the second largest bunches in the show, which were well finished and of good quality, the variety being Calabrian Raisin. C. A. Cain, Esq., J.P., followed with Lady Hutt; and H. W. Henderson, Esq. (gardener, Mr. F. L. Pike), King's Langley, third with Foster's Seedling.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

October Roses.—Apart from such Polyantha Roses as Jessie, Orleans and Katherine Zeimet, which are always good in autumn, many of the Hybrid Teas and pernetianas are this year flowering well later than usual. Marquise de Sinety, Duchess of Wellington, Mme. Léon Pain, Pharisäer, Gloire de Dijon, Mrs. A. Munt, Mme. Ravary, Betty, Königin Carola, Souvenir de Stella Gray, Rayon d'Or and Mme. Abel Chatenay are a few that have particularly good flowers on them as we are going to press.

A Handsome Knotweed.—This family of plants contains many beautiful species, from dwarf alpine ones, 3 inches to 4 inches high, to the tall Polygonum sachalinense and the climbing P. baldschuanicum, 12 feet to 20 feet high; but the most ornamental one flowering now is the many-spiked Knotweed, P. polystachyum, with its panicles of pinkish white flowers. Either in a mass by itself, where it makes a very bold display, or in the herbaceous border it is a very ornamental subject, and it will give an annual display with little attention.

Protecting Christmas Roses.—The original Christmas Rose (Helleborus niger) does not bloom till the Christmas season, but H. n. altifolius, also known as maximus and major, a variety in every way superior to the type, often begins to flower early in October, and goes on for a long period. Although quite hardy, the blooms come a purer white and are immune from dirt if protected by a light frame. Abundance of air should be admitted, however, and a good plan is to tilt up the frame by placing a brick under it at each corner.

Flower Garden Combinations.—Those who seek to produce great flower contrasts in the garden should make note of two plants which by reason of habit and the merit of profuse as well as abundant flowering would appear well suited for purposes of display. The plants we have in mind are the brilliant scarlet Salvia Glory of Zurich and the pure white Anemone-flowered Marguerite, better known perhaps as Chrysanthemum Mrs. Sander. For effective work it may not be necessary to mix the two or even to border the one with the other, a better way being, perhaps, to plant a bed of each in near proximity, and so mirror into greater purity or brilliance the finer attributes of these unique subjects.

A Pretty October-Flowering Shrub.—The fine mild weather of the last fortnight has been very favourable for the late-flowering Lespedeza Sieboldii. At its best, with tall, slender stems 4 feet to 5 feet long, each terminating in a large inflorescence, it is particularly attractive, for there are very few shrubs flowering in October. L. Sieboldii is a native of North China and Japan. During most winters the young growths are killed to the ground, but, even if only the ends are damaged, it is worth while cutting the stems down to obtain the vigorous young growths which push up from the base. The leaves are trifoliate, the flowers, which are very freely produced, being rosy purple, borne on long-branched terminal panicles. Unfortunately, this plant has several synonyms, a favourite nursery name being Lespedeza bicolor, while another is Desmodium penduliflorum.

Increasing the Double-Flowering Arabis.—The double-flowering Arabis is too well known to need any recommendation for spring bedding, but many people annually go to the trouble of propagating it from cuttings. This is quite unnecessary, for pieces taken from the old plants now and dibbled in the beds or borders where they are required to bloom will be found to make good plants and flower much freer than those raised from cuttings.

A Late-Flowering Shrub for a Sheltered Corner.—One of the most showy of late-flowering shrubs is Clerodendron fœtidum, or C. Bungei as it is sometimes called and although it is not a hardy shrub—for seldom in the open does it stand the winter without dying back like a herbaceous plant—yet, if it is given the protection of a wall, or, better still, the corner of two walls, it will make a fine, handsome specimen. It is not essential for it to have a south wall. The plant we have in mind is growing in a corner with a north-east aspect, and is 10 feet high. It quite fills up the space, being 5 feet through, and is now laden with dense terminal corymbs of rosy pink flowers. It is well worth a place outside in such a position. Other handsome, nearly hardy Clerodendrons are C. trichotomum, with white flowers which are a great contrast to the red inflated calyx, and its variety Fargesii, which is more compact.

Ornamental Fruits in the Garden.—Certain hardy trees and shrubs are this autumn bearing an unusually heavy crop of fruits. Both as large bushes in the open and as a climber trained to a wall the branches of Pyracantha (Cratægus) coccinea are laden with orange red berries. Unless, however, the bushes are covered with nets, the birds will secure most of the fruits by the end of October. The Sea Buckthorn, Hippophaë rhamnoides, with its grey, Willow-like leaves and orange-coloured fruits weigh down the branches. Among numerous attractive bushes of Cotoneasters, C. frigida is the most conspicuous, with quantities of red fruits. The Spindle Tree, Euonymus europæus, with coral red fruits; Berberis vulgaris, the Common Barberry; the waxy white fruits of Symphoricarpus racemosus, the Snowberry; Pyrus Ringo, with golden yellow Crab-like fruits; the heavily-laden bushes of the Dog Rose, Rosa canina, the large, scarlet red fruits of R. canina subcristata in particular; and the Cockspur Thorn, Cratægus Crus-galli, with scarlet fruits and orange-tinted foliage, each and all add to the interest and attractive character of the garden in autumn.

CORRESPONDENCE.

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

Crocus caspius.—This is in flower here now (October 2) in a spot where it is established. Corms transplanted this summer will not be out just yet. It is one of the largest and finest of the autumn-flowering species, pure white inside, the exterior of the petals pale mauve. Here we find it a very free seeder, and I raise a number of seedlings every year, which, however, do not flower till three years old. Recently I have used the pollen of C. hyemalis Foxii and one or two other species on it, and am now awaiting with interest the flowering of what I trust will turn out to be hybrids.—F. Herbert Chapman, *Rye.*

Rose-Growers of Bygone Days.—In the early seventies—a time when great advance was made in the introduction of new varieties of Roses—Mr. Quilter of Aston Park, Birmingham, promoted and held some first-class Rose shows, and one condition was a £10 penalty if a grower entered and did not exhibit. On one of those particular occasions I well remember having a very enjoyable luncheon, when our old and esteemed friend, the late Benjamin Cant, took the chair, and someone proposed that we should have our photograph taken in a group, a copy of which may be of some interest to your readers. I well remember we had a fine meeting of all Rose-growers and a splendid exhibition from the leading exhibitors of the country.—Henry Merryweather, *Southwell, Notts.*

ROSE-GROWERS OF BYGONE DAYS

Standing, left to right: Mr. W. Gater, Mr. H. Merryweather, Mr. Illman; other two not known. Sitting: Mr. Ball, Mr. Charles Gater, Mr. B. R. Cant, Mr. Neward.

Saxifraga burseriana.—Really, since we are all agreed as to how we each prefer to grow or not to grow Saxifraga burseriana, it may well seem waste labour to go on exchanging facts about the plant against contradictions, no matter how emphatic. At the same time, I cannot feel it would be good for anybody if I acquiesced silently in being given the lie with quite the candour affected by Mr. Elliott. This great and earnest man, in the ardour of dispute, has been misled by analogy, that perilous charmer. He has seen (from the train) sunlight streaming into the mouth of the Salurn Klamm; yes, indeed, so have I—and felt it, too! Now if drink streams into my mouth or Mr. Elliott's, it streams into him or me *ex hypothesi* unless we reject it. But sun, streaming into the mouth of a gorge, by no means necessarily streams into the gorge itself. And whereas the mouth of the Salurn Klamm can indeed be seen from trains, and felt by closer inspection to be one of the hottest and most sun-flogged places that an alpine afternoon or midday can discover, the interior of the Klamm rejoices in wholly different conditions, and may fairly be described as a sunless gorge—not sunless, indeed, as a cavern measureless to man, but sunless in only having a brief and inconsiderable daily share in that luminary. And it is significant that only when you arrive at the Klause does the Saxifrage begin to occur, quite refusing the more open and torrid stretches at the mouth of the gorge; not only for this reason perhaps, but also because that mouth is occupied by true, coarse scree. With regard to the geological lecture administered by Mr. Elliott, in the first place I think a closer acquaintance with the fine silty ridges in the shadowed interior of the Klamm would cause Mr. Elliott to be less certain as to the origin of those banks; in the second, whether washed down by water or up by water, the soil there is so unlike any other detritus—utterly different from any—and so utterly alien from the coarse composition of scree that it is only, and precisely, comparable to the fine silts that lie in waving ripples over the Forcella Lungieres or the Passo delle Selle. Therefore in describing such for the horticultural benefit of those who have not seen, or for those who have, but forget, it is certainly allowable to paint it as silt, even as even Mr. Elliott himself, I imagine, applies the word "moraine" to a horticultural compound which in reality has no relation to the rounded, water-worn desolations whose convenient name it bears, but is in relation to the conditions of quite a different deposit, the sharp and fertile accumulations of fallen shingles on the highest slopes and hollows (if I may be allowed to use the word shingle without being told that it is only admissible of Brighton Beach). Mr. Elliott, however, mistakes the reason why S. burseriana grows in the fine silt of the Salurn Klamm. It does not do so because I say it, not even because I have said it twice; but because I have twice very carefully noticed and collected it there so growing, and duly record the fact for the interest of such people as lay greater weight on repeated observation than on even the most aquiline of glances cast from an express train proceeding in full career perhaps half a mile from even the entrance of the gorge (for such, I may suppose, was the train that took Mr. Elliott, or rather, as I had better say, conveyed him). However, these are unprofitable matters. Mr. Elliott regrets that he was unable to give me his corroboration. Even had my records stood in need of it, the blow of this denial would still be softened to me by Mr. Elliott's proper admission that his remarks have to be conditioned by the considerable qualification "as far as I remember." Now, however far "I remember" may go, such a recollection, dim or clear, of two or three seasons since cannot well enter into competition with the actual observation of the current year, deliberately sought with an eye to getting the facts correct. Therefore, for what the information may be worth to the cultivator in the way of interest, it may be taken that S. burseriana, in Nature, certainly luxuriates in at least one famous station in fine limy silt and in a shady gorge. In the Schlern Klamm, "as far as I remember," the plant tends to be more saxatile, as the gorge is wider, and therefore less overshadowed by its walls; while on the Hoch Obir the minor form grows in enormous masses, on the under side principally, of turfy laps along the neck of the mountain.—Reginald Farrer.

Rose Irish Elegance in Scotland.—In common with many others, I have read with keen interest the correspondence in the columns of The Garden regarding this Rose, which I had not seen. It was, therefore, with pleasure that I came across several plants of it the other day in the gardens of Lady Cathcart at Cluny Castle, Aberdeenshire, while spending a holiday in that district. The plants showed great vigour, and Mr. McLeod, the head-gardener, told me that they had bloomed very freely. There was sufficient bloom left to show the true character of this beautiful Rose.—Caledonia.

Gypsophila Rokejekii.—This is a tall, lax-habited species well worth introducing into mixed borders. The flowers are about the same size as those of G. Stevenii, and pink. The lank stems, if left to themselves, shoot up to proportions far beyond what the amenities of present-day gardening admits, and it is therefore essential to cut each one as it attains the desired height, which, as well as checking growth, causes the laterals to spring out and form a somewhat bushy plant. It flowers from the end of August till the end of the floral season, and is easy to propagate by seed.—R. P. B.

Outdoor Figs.—With reference to the note in The Garden of September 20, page 470, respecting the above, it may interest some readers to know that here on the southern border of Yorkshire we have trees of Figs Brown Turkey and White Marseilles growing on a south-east wall and yielding good fruit. The soil in which the trees are growing is of a sandy nature, and although this season (and noticeably this district) has been exceptionally dry, no watering has been done. During the winter the roots are heavily mulched and the branches protected by mats; but, apart from this, no special treatment has been deemed necessary. I may mention that the tree of Brown Turkey is about twelve feet high and has a spread of about twenty-five feet.—H. Turner, *Serlby Hall Gardens, Bawtry, Yorks.*

Campanula fragilis.—Mr. Arnott writes of this well-marked species on page 473 as being "of the same class as garganica," from which, of course, it is most distinct. Indeed, the two plants have nothing in common. C. garganica is of almost matlike density, and provides an innumerable host of small, very starry flowers, while C. fragilis is a comparatively sparse-growing plant, the much larger flowers of saucer-like outline totally unlike those of the other species named. Hence one is a little puzzled by the remark. The true C. fragilis is quite one of the most "touchy" of its race, so much so that attempts to divide it must be undertaken with care. A "white form" is also referred to in the paragraph, which I do not appear to recall. If good and pure, it would certainly be very charming.—E. H. Jenkins.

Rose-Buds Dropping Off.—We have lost so many buds this year, especially during their formation for the second flowering, that I would like to ask, if space can be spared, whether other readers of The Garden have shared a similar fate? Sometimes the buds have been almost black, at other times yellowish, and of sizes varying from a pin's head to an ordinary Sweet Pea seed. We have never been able to track any insect in the act of damaging them, and the plants have been regularly syringed with one solution or other, besides which the plants are normally healthy. In some cases the buds would be quite right one day, then in another day or so gone, or would fall immediately if the bush or shoot was handled, and frequently the loss would be from a clean and strong growth. Our final supposition was that the falling off must be due in some way to climatic conditions. Can anyone offer any better explanation? I ought to add that the plants have been regularly watered, so there is no fear of drought.—C. T., *Highgate.*

Rose President Vignet.—This new Hybrid Tea, from Pernet-Ducher in 1911, has been extra good with me of late; in fact, it is one of the very best reds at this season; a capital grower and bloomer, flowers large and solid, also possessed of an especially sweet perfume. Carmine, shaded with poppy red, is the best description I can give, and as it was good last autumn as well as this, it will probably take a high position as a good late red bloomer.—A. P.

Salvia uliginosa as a Hardy Plant.—In reference to your illustration and note in The Garden for September 27, page 484, it may interest readers to know that this plant has been growing now for several years in the herbaceous ground at the Botanic Gardens, Cambridge, without being in any way affected, either in the winter or early spring, by frosts. Although the individual flowers are of a pleasing blue, the plant itself is of a somewhat straggling habit, from 5 feet to 6 feet high, and hardly to be compared with some of the other members of the Sage family.—F. G Preston, *Botanic Gardens, Cambridge.*

Musk Losing Its Scent.—In your issue of August 23, page 418, "E. A. P." enquires if Musk still retains its scent in its native haunts. I enclose seeds of a variety growing on Vancouver Island. This resembles Mimulus moschatus, and grows luxuriantly in moist places, but is not scented. I have never found a scented variety here.—T. Sheward, *Hillbank, Vancouver Island, British Columbia.*

—— In your issue for August 23, page 418, there was a very interesting article on "Musk Losing its Scent," by "E. A. P.," who says he would like to know whether it is still fragrant in its native haunts and by what insects it is fertilised there. In my garden here there are quantities of wild Musk, which I often pull up by handfuls, for it grows so quickly that it smothers the other plants. It flowers so freely and looks so pretty that I leave a patch here and there, but, alas! it is quite scentless. I am no botanist, so cannot say anything about the variety, but to all appearances it is just the same plant we used to grow in pots at home in the Old Country; and no doubt "E. A. P." will be considerably amused to learn that a week or two before reading his article in The Garden I purchased a tiny pot plant from a local nurseryman, who assured me that it was "real English Musk," grown from seed sent to him direct. This certainly had a slight perfume when I bought it, but I regret to say the plant was neglected and has died down. With reference to the insects that fertilise it here, I should say it must be the mosquitoes which perform that duty, as they abound and are most plentiful where the Musk plant thrives best.—C. R. Thurston, *Vancouver, British Columbia.*

FORTHCOMING EVENTS.

October 13.—United Horticultural Benefit and Provident Society's Meeting. National Chrysanthemum Society's Floral Committee Meeting at Essex Hall, Strand, London.

October 16.—Royal Jersey Fruit Show. North of England Horticultural Society's Show at Leeds (two days).

THE IMPROVEMENT OF GARDEN ROSES.

What does the amateur rosarian want from the raisers of new Roses, and on what lines ought he to press for improvement? In the abstract the questions seem easy enough to answer. A visit to any of our big shows would indicate that we already possess flowers of great beauty and variety, both in form and colour, so that we might be tempted to say, as Rivers did sixty years ago, that it seems difficult to expect anything more beautiful; while the florists' shops show us that we may now have Roses of great beauty nearly all the year through. Yet, when we come to examine our own and our friends' gardens, we become conscious that there is considerable possibility of improvement in our garden Roses. At the same time, we can only in reason hope to proceed by steps, and these steps must be practical ones; that is to say, if we hope to get some special quality impressed on our Roses, we must look for it, or for some indication of it, in the plants we already possess.

Now the first quality to which I would ask our hybridisers to devote their attention is continuity in flowering. No one can deny that great steps have already been made in this direction. It is only necessary to go into an old-fashioned Rose garden, as I did in the month of September, where the plants are those of twenty or thirty years ago, that is, mostly Hybrid Perpetuals, and see them all looking very green and healthy, with great, long shoots, but scarcely a flower worth looking at among them, and then compare this with a Rose garden of modern plants gay with a profusion of flowers and colour. The gain is considerable, but it might be extended. All the Hybrid Teas, even the best of them, have a flowerless period, often of some weeks, succeeding each burst of bloom. Liberty, Mme. Ravary, Lady Ashtown, Mme. Abel Chatenay, Caroline Testout, Joseph Hill, Mrs. E. G. Hill and Mme. Leon Pain all cease flowering for a time while the buds for the next crop of flowers are growing. My special affection for Richmond is, I think, largely founded on the fact that in its case this flowerless period is less than with most other varieties. Even the Teas, like Mme. Lambard and Mme. Antoine Mari, possess the like defect, though Molly Sharman Crawford perhaps shows it less than most of them.

I decline, however, altogether to think that this condition is a necessary one. We do now possess in our gardens three Roses in which there is actually no cessation of flowering. My beds of Jessie, Mrs. Cutbush and Orleans Rose have been full of flower without a break ever since the plants came into bloom towards the end of June. If these charming little plants only possessed beauty of form in the flower as well as continuity, we should be a great step in advance; but, unfortunately, they do not, and we still wait for a Hybrid Tea of fine shape and colour to equal them in continuity. Of course, in order to secure this continuity in the varieties I have named, cultivation must be attended to. They must be planted in really well-made beds, and have their flowers carefully removed as they go over. Also, if a period of drought supervenes, as has happened this summer, they must have occasionally a thoroughly good soaking of water. If planted in badly-made beds, or if neglected, they will have their flowerless

periods like other Roses. Possibly Mr. Pemberton's beautiful new seedlings Danäe and Moonlight may help us in the desired direction; but down to the present I have not tried them.

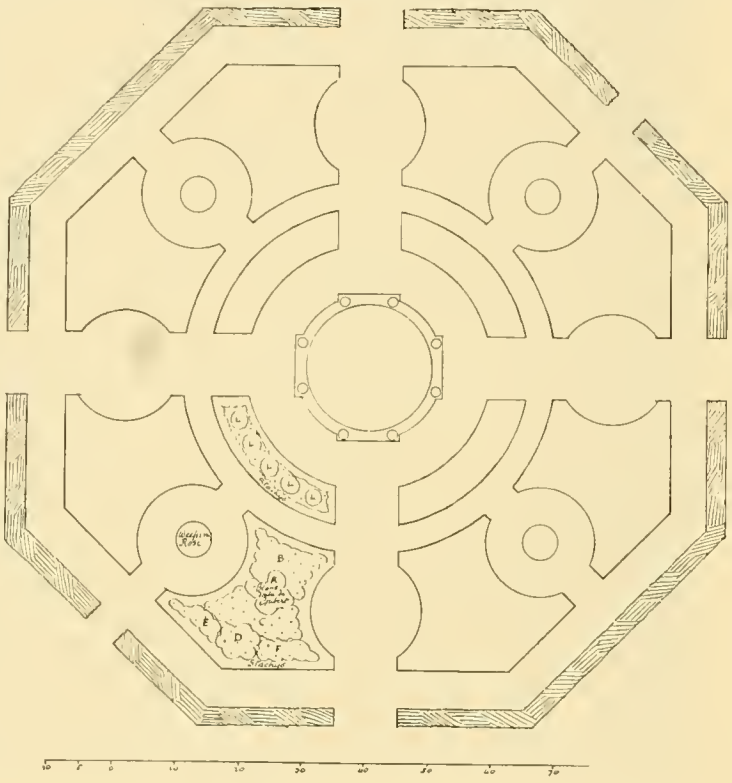
Disease-Resisting Roses Wanted.—Another direction in which we may look and hope for improvement is in that of freedom from disease. No one but the rosarian knows how much time and trouble is lost in the attempt to keep down mildew, and how hopeless and disreputable a Rose garden looks where the attempt has failed and the fungus is disfiguring the foliage. Now we already possess several Roses which are practically immune from this disease. For instance, Lady Waterlow, Rayon d'Or and the old Rose Mrs. George Dickson appear to be unaffected by mildew, though they may fall a prey to black spot. Some Roses are great offenders in their liability to mildew. If we could find a Killarney, an Irish Elegance or a Mrs. Herbert Stevens that was immune from this pest, how great would be the advance, for each of these in its way has a form of great beauty! In its effect on the constitution of the plant in future years, black spot appears to be a more serious enemy of our Roses even than mildew, and, moreover, it is far less easily dealt with. Few, if any, Roses appear to be immune from this trouble, but some are much more subject to it than others. The Lyon Rose in my garden has been a great offender in this respect, and White Maman Cochet and Dawn are easily affected by it.

There is a third direction in which we may look for improvement in our Roses of to-day, and that is in the development of plants that will readily and under moderate conditions of culture yield us flowers of good form and decided colour throughout the season, be it wet or fine, when grown as cut-backs. There are many Roses which more or less frequently give fine flowers on maiden plants which are nearly useless as cut-backs. These the wise man will turn out of his garden so soon as he has been able to give them a fair trial, and they die a natural death before many years are past after their introduction. But there are many others, and among them some of our best Roses, which are by no means good throughout the season. Richmond is lovely in its first bloom and good again in autumn; but the summer flowers, particularly in a year of summer drought like the present, are often of poor quality and colour, and though they may look well in the distance, will stand no close inspection. Mme. Ravary, again, and several varieties of similar colouring, including the beautiful Prince de Bulgarie, when the autumn rains and cold nights begin to arrive, seem to get all the colour washed out of them and lose character altogether; while there are others, like Duchess of Wellington, Mme. Edmée Metz, Mme. Segond Weber and many of the Teas, with petals of thin substance which are most beautiful when the weather is fine, but hopeless if it be wet and they are unprotected. I can think of few Roses which meet my requirements in this respect better than Mme. Abel Chatenay. It almost always produces well-shaped flowers, and though no doubt its colour is sometimes better than at others, it is seldom a poor colour, and it is no doubt to these virtues that its immense popularity is due. It has other defects, it is true, but in the qualities I have named, perhaps it is as yet unsurpassed.

Now how are we to secure the production of Roses with these desirable qualities—continuity of flowering, freedom from disease, and the easy production of good flowers throughout the season? Clearly we shall get no assistance from the shows, where none will display any but the most perfect flowers that he can produce; nor from the descriptions given by the raisers, who commonly predicate all these qualities of their seedlings, and I am willing to believe that the raiser's description may often have been justified by his experience of the maiden plants of the new variety in his own garden. But the amateur knows only too well that when the plant is transferred to his own garden, the description but too frequently differs materially from his own observation of the new Rose.

It seems that as matters are now arranged it is to the amateurs chiefly and finally that we must look to secure the results we desire. By vigorous criticism and elimination of the undesirables they will get what they want, if only they will be guided by patient observation in their own and their friends' gardens throughout the year, rather than by occasional enthusiasm at a flower show or the credulous study of a catalogue. The improvement of the Rose as an exhibition flower is effected automatically; its improvement as a garden plant lies with the gardener.

White Rose.



PLAN OF A ROSE GARDEN WITH LILY POOL IN THE CENTRE.

DESIGNING A ROSE GARDEN.

A ROSE garden may often be made much more delightful by having some one point of interest besides the Roses, for nothing is more usual than to find that, except in the few weeks of its fullest bloom, the Rose garden is rather a dull place. There are several ways in which such an object of interest may be secured; either by a sundial or fountain, or a raised stone flower-bed, or a piece of ornamental sculpture in stone or lead, whether central or defining certain points of the circumference in prepared niches in the bounding hedge. In the case of the garden shown, this variation of interest is given by a tank for Water Lilies 20 feet across, giving good space for at least three kinds of beautiful Water Lilies. The low, flat kerb, which in an unbroken circle of this size would be a trifle monotonous, is varied on the four sides opposite the paths by a square projection, which gives width enough for the placing of four pots or small tubs of flowers in pairs. The four beds nearest the tank are also treated with a certain symmetry, and are planted with Lavender and China Rose, thus securing some permanence of effect and good clothing for all seasons, and so also joining in with the enduring and unaltering stonework of the tank. The small circles in the four diagonal angles are trained weeping Roses, of such a kind as the pretty pale pink Lady Godiva.

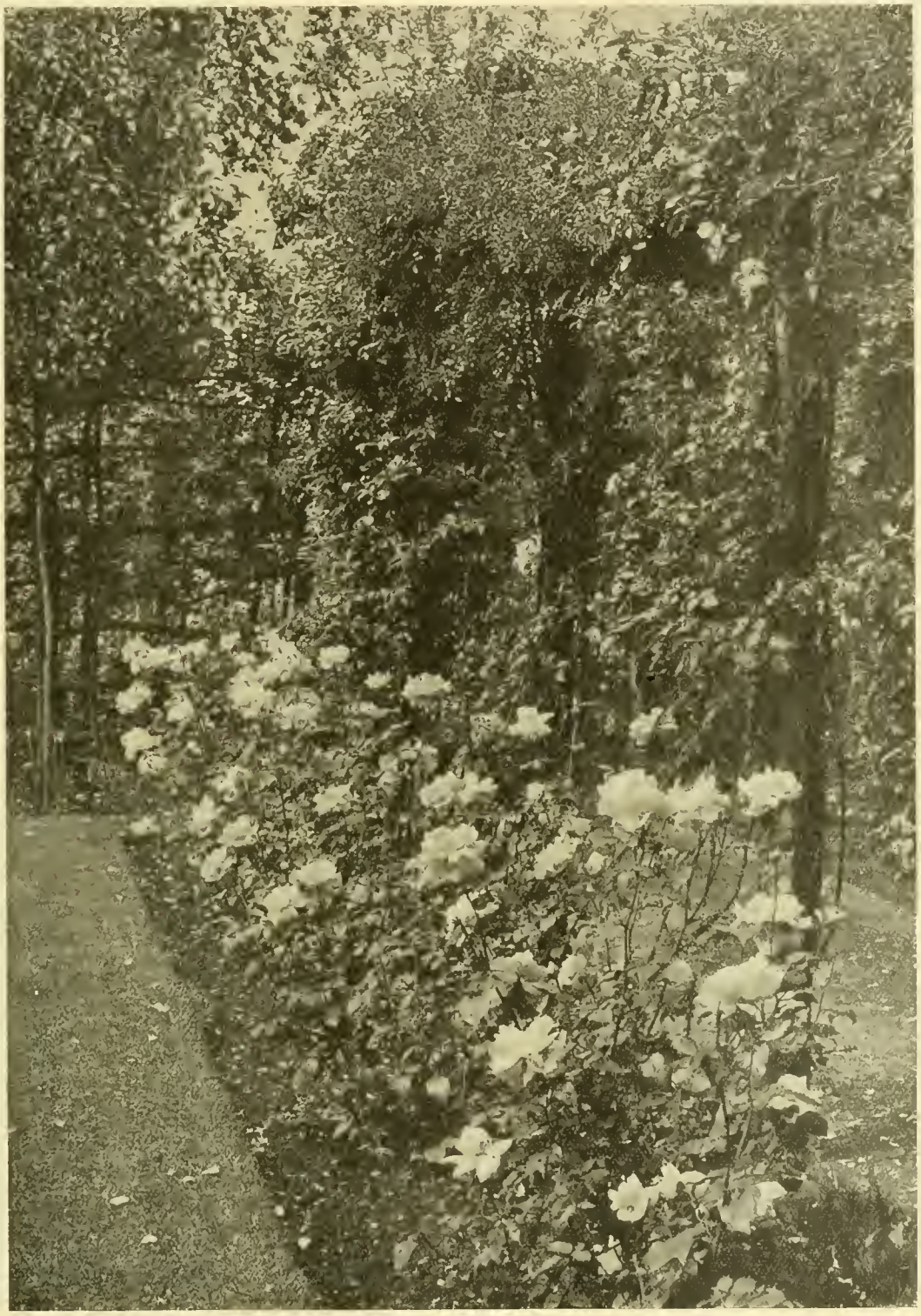
The large clumps have a middle mass of five plants of the fine rugosa hybrid Blanc Double de Coubert. This is chosen because of its handsome dark green foliage and for its way of forming a dense, bushy mass of solid character, quite different to the thinner habit of most Roses. The coloured Roses will come well in groups as shown, using four kinds in each clump. The names of the actual kinds are not given, because the choice will depend both on the character of the soil and climate and on the taste of the owner. But as a general suggestion as to colour arrangement, it would be well to have in the space B some good Rose of a deep pink or a clear rosy red such as Zephyrine Drouhin, in C a bright red, in D a white, and in E and F a light pink. The whole garden is much beautified by a complete edging of Stachys lanata. The flower-stems are cut out when half developed; then the plant at once spreads at the root and forms a silvery carpet. It is kept fairly even on the side next the turf, but runs freely into the bed where there is space between the Roses. This edging is not only most becoming to the Roses, but serves a useful purpose by defining the form of the design. Thorough preparation of the soil is, of course, essential for success, but this is dealt with fully elsewhere.

G. Jekyll.

A SUBURBAN ROSE GARDEN.

During recent years the cultivation of Roses in gardens situated in the suburbs of London has received a great impetus, and one of the most charming instances that have come to our notice is at The Lodge, Surbiton Hill. Here Mr. William Hudson, the owner, has, in an area of less than an acre, formed a Rose garden of considerable beauty and interest. Until a few years ago the ground now occupied by Roses was a wilderness of overgrown fruit bushes, which have been disestablished in favour of the present inhabitants. The beds have been laid out with only so much formality as is given by their regular shapes and balanced disposition. There are no brick or stone paths, but the Roses make little oases of colour in their setting of green turf. Well-grown trees form a strong background, and in front of these the boundary fences have hidden their bareness behind a wealth of climbers of all sorts. In the borders in front of these climbers many choice herbaceous plants, particularly well-grown Delphiniums, Phloxes, Hollyhocks and tall Evening Primroses, luxuriate in bold masses, the whole forming a charming setting for the Rose garden proper.

In planting the Rose-beds the owner has wisely used only one variety in a bed, so that a beautiful mass of one colour, instead of the too often bizarre effect, is obtained. For the purpose of providing flowers at those times when the Roses are more or less resting, the beds have been carpeted with Violas or Tufted Pansies, and in some instances Carnations are intermixed with the Rose bushes, the latter giving a wealth of fragrant flowers for cutting that is only surpassed by the Roses themselves. Well over two hundred different varieties are grown, these being selected principally for their freedom of flowering, good, distinct colours and even contour. Those large-flowered kinds which naturally produce their blooms in clusters are vigorously disbudded, so that only the most promising bud is left on each stem. The result of this disbudding is that only large flowers of perfect contour are developed. Some of the best dwarf or semi-dwarf varieties in the beds are Duchess of Wellington (soft yellow), Lady Hillingdon (a pale shade of orange and buff), General Macarthur (crimson), Mme. Ravary (soft buff), Camoens (glowing rose, with yellow base), Caroline Testout (pink), Earl of Warwick (flesh pink and rose), Frau Karl Druschki (white), Grüss an Teplitz (bright crimson), Gustave Regis (nankeen yellow, fading to cream), J. B. Clark (crimson scarlet), Lady Ashtown (rose pink), La Tosca (pale cream, rose), Lyons Rose (coral red, tinted orange), Mme. Abel Chatenay (pink, suffused salmon), Mme. Leon Pain (silvery white, rose pink centre), Mrs. W. J. Grant (bright rose pink), Paul Lédé (apricot, shaded rose), Richmond (glowing crimson), Sulphurea (bright sulphur yellow), Rayon d'Or (rich canary yellow), Pharisäer (similar to Mme. Leon Pain), Mme. Melanie Soupert (pale yellow, suffused amethyst), Antoine Rivoire (pale cream), Mrs. Aaron Ward



A VIEW IN THE ROSE GARDEN AT THE LODGE, SURBITON HILL, SURREY.

A CLUSTER OF WHITE BLOOMS OF ROSA DUPONTII.

(Indian yellow, edged white), Mrs. George Shawyer (pale rose) and Prince de Bulgarie (pale rose, shaded apricot). At one side of the Rose garden is a large bed filled with that beautiful, but too often disappointing, variety, Juliet. This is a very vigorous-growing Rose, and Mr. Hudson has wisely allowed the long shoots to remain nearly their full length, pegging the tip of each to the ground. Nearly every lateral shoot produced from these is terminated by a large and fragrant bloom of bright rose colour, shaded old gold on the under side or reverse of the petals. This seems to be the best way to treat this variety for garden purposes.

When the fruit bushes were cleared away to make room for the Roses, a few old Apple trees were allowed to remain, and these now make excellent supports for many beautiful rambler and pillar Roses, such as Conrad F. Meyer, Blush Rambler, Lady Gay, Hiawatha, American Pillar, Tea Rambler and Dorothy Perkins. There must be many gardens where old Apple, Pear or Plum trees, no longer of value for their fruit, might be put to similar use. The Roses must, however, be planted well away from the roots of the trees, and the long shoots trained up among the branches.

In addition to these natural supports, a few rough Larch posts with portions of the lateral branches remaining have been let into the ground, and these support a number of good pillar Roses that are allowed to throw their vigorous shoots almost where they will, instead of, as is too often the case, being tied tightly to a plain, unbranched post. It is really surprising that rustic poles, old tree stumps, and rough Larch posts are not more often used for supporting Roses of rambling habit. Conrad F. Meyer has been especially good grown in this free and pleasing manner. In front of the house several fine weeping standard Roses have been planted, two of the best being Minnehaha and Jean Guichard. The illustration on the previous page represents a view in this garden at Surbiton, and gives some idea of the beautiful effect obtained by massing one variety in a bed, with pillars of ramblers forming a sort of open but harmonious background.

ROSE FORTUNE'S YELLOW AT LOCKINGE.

ALTHOUGH this beautiful Rose has been in cultivation for a great many years, it has not become so popular as its merits deserve. When well grown it is one of the most beautiful, as well as the most useful, Roses in cultivation. Although it may be grown quite successfully outdoors in a sheltered situation, it is perhaps more at home and of much greater value when grown in a cool house. My predecessor, the late Mr. W. Fyfe, established it in three different structures in these gardens, and from these we cut large quantities of flowers all through the spring months. The earliest blooms are cut from two trees planted on either side of a rather low span-roofed house. The main stems are trained along the bottom of the rafters much in the same manner as a Vine. From these branches the young wood grows over the trellis and is trained about a foot apart.

It is while the growth of this wood is in progress that the strictest attention must be devoted to the general requirements of the plants, for the better this young growth is developed, the better will be the flowers, both in colour and substance. In passing I must say a word about the colour of this lovely Rose, as when seen at its best there are few Roses that can equal it in this respect. At Lockinge it assumes a beautiful apricot colour, which is more pronounced when the young flowering wood becomes thoroughly matured; therefore it follows that everything possible must be done to assist the perfect development of the young growths. The nature of the soil, too, undoubtedly has a deal to do with the colour of the flower, and as the natural soil here is very chalky, it would seem that this constituent is essential in bringing out the best colour in this particular Rose. The trees in this house are planted in a somewhat restricted, well-drained border, and during the growing season the roots receive copious supplies of water. The feeding takes the form of diluted drainings from the farmyard, and, as mentioned before, it is given principally when the young flowering growth is in course of development, and again while the flower-buds are developing. At the present time this growth is nearing completion, and for the next two or three months the trees must be induced to remain in a dormant condition. This is best brought about by keeping the house as cool as possible; therefore, when choosing the structure in which to grow them, one must be selected in which the temperature can be kept at about 40° during the time the Roses are resting. The flowering-time can, of course, be regulated by extending or shortening the season of rest; but, needless to say, the flowers which we get from the earliest house are not nearly so fine as those grown in the latest one.

We commence cutting the first blooms at the end of February from the first house; the second crop we get from a plant growing over the roof of a lofty conservatory; and the third and main crop from two large plants growing in a large, lofty house in which are stored specimen bedding plants during the winter. After flowering, the trees are pruned, which consists of cutting hard back all the old flowering wood. The young growths are very soon active, and from these the most promising are selected and trained over the trellis. During the growing season the trees must be gone over several times to remove superfluous weak growth. After pruning, 2 inches or 3 inches of the surface soil is removed and replaced with fresh loam, old lime rubble and crushed bones, and later on, when the surface of the border is full of roots, a good top-dressing of well-decomposed farmyard manure is given, and this is thoroughly washed into the borders at once. The worst enemy of this Rose is mildew, which will quickly appear if the roots are allowed to become dry. During the growing season the trees are thoroughly syringed with clear water daily. All the trees here are growing on their own roots.

Lockinge Gardens, Wantage. F. HARRISS.

ROSE SPECIES OR WILD ROSES.

THEIR USE IN THE GARDEN.

THE beauty and consequent popularity of the large family of garden Roses is no doubt responsible for the rather meagre attention given to the species and botanical varieties. Though so neglected in our gardens to-day, quite a number of them are deserving of attention, even in small gardens. It may be for their pretty, daintily-coloured single flowers, their elegant foliage, attractive fruits in autumn and early winter, or their coloured stems and the striking character of the thorns. The Rose garden proper is not, of course, the place for the wild Roses, unless it be as a hedge to surround the garden, and possibly, if the environment is suitable, a few informal groups on the outskirts or approach to the garden. It is in the less formal parts of the pleasure grounds, the wild garden and open breaks in the woodland that they are seen and appreciated in their greatest beauty.

A considerable number of these bushes are self-supporting. Others, which include Rosa arvensis, the Ayrshire Rose, and R. wichuraiana, are best when clothing a more or less steep bank, or scrambling over and perhaps hiding an unsightly fence. Yet another section, represented by the very

THE AYRSHIRE ROSE (ROSA ARVENSIS).

ROSA TOMENTOSA, A BRITISH SPECIES WITH PINK FLOWERS.

vigorous R. moschata, will, with a little encouragement in the early stages, scramble up trees to a height of 25 feet or more, and make a most effective picture when in flower. A few of the most useful for prominent beds in the pleasure grounds are R. Hugonis, R. lutea, R. indica, the Scotch Rose, R. spinosissima and varieties, R. Moyesii, R. rugosa, R. nitida and R. sericea pteracantha.

The wild Roses will thrive in most soils; but if poor and sandy, incorporate plenty of old decayed manure, cow-manure for preference, previous to planting, an occasional mulching with manure being also very beneficial. Seeds and cuttings form ready and easy methods of propagation. As, however, the single Roses hybridise very readily unless the fruits are collected from isolated bushes, it is safer to propagate by means of cuttings. No pruning of the Rose species is necessary, but an occasional thinning of the shoots is desirable after flowering, the older wood being cut out, if possible, in some instances down to the ground, which will generally have the effect of inducing vigorous young shoots to push up from the base. There are probably about a hundred distinct species, and an equal number or more botanical varieties. To contain anything like a representative collection of these beautiful single Roses, the garden must obviously be a large one. There are, however, few gardens in which space cannot be found for some of the best, a selection of these being given.

Rosa acicularis.—This Siberian Rose forms a shapely bush 6 feet to 7 feet in height. The bright rosy pink flowers appear towards the end of May, and are followed in autumn by shiny, Pear-shaped, waxy red fruits. The foliage is attractive in summer, and in winter the reddish colour of the twigs is noticeable.

R. alpina.—The single, rosy red flowers of the Alpine Rose are welcome in May, as also are the red hips in autumn. It is an European species, and varies considerably in height, a dwarf, free-fruiting variety being very useful in the rock garden. R. pyrenaica is a dwarf form with long, flask-shaped fruits, which ripen in August.

R. arvensis.—This is a British species readily recognised by its long, slender, trailing stems. Popularly known as the Avrshire Rose, the habit of the plant makes it very suitable for clothing banks and scrambling over old tree stumps. The white flowers, with a pretty tuft of yellow stamens in the centre, expand during June and July. The small, oval fruits are orange red in colour. Its elegant, graceful habit is noticeable in the illustration on page 510.

R. bracteata.—To grow the Macartney Rose successfully in all but the warmer parts of the country, the shelter of a wall is desirable. It is a native of China, and the large white flowers are delightfully fragrant and effectively displayed by the rich shining green leaves.

R. carolina.—The Swamp Rose of North America, this species may be grown successfully in damp situations by the lakeside and stream. It forms a large bush some 6 feet in height, with

THE MUSK ROSE (ROSA MOSCHATA).

clusters of pretty pink flowers produced from June to August.

R. cinnamomea.—This is a pink May-flowering Rose native of Europe and North Asia. It forms a large bush 7 feet to 8 feet high, with conspicuous dark red, round fruits in autumn.

R. Dupontii.—A pretty bush 4 feet to 6 feet high, with clusters of blooms, well shown in the illustration. The long, flask-shaped fruits are orange red in colour.

R. Hugonis.—This species is of comparatively recent introduction from China. Growing 6 feet or more in height, the rich yellow blooms, 2 inches across, are freely borne during May and early June. When not in flower, the elegant, Fern-like foliage attracts attention. R. Hugonis is adapted for a bed in the pleasure grounds or for massing in the shrubbery border.

R. indica, the Monthly Rose, seems never out of flower from early summer till spoilt by frosts in late autumn. It is perhaps best known as the parent of the dwarf free-flowering Tea and China Roses. The type has rosy red blooms while a dainty dwarf-growing variety named sanguinea has semi-double, rich crimson flowers and reddish leaves. The latter is a gem for the rock garden. Viridiflora or monstrosa, the green-flowered Rose, is grown by some as a novelty.

R. lævigata, the Cherokee Rose, should be planted at the foot of a warm south wall. The large white, single blooms, with a setting of the shining green foliage, cannot fail to appeal to lovers of Nature. A variety, Anemone, with silvery pink flowers, is delightful towards the end of May.

R. lutea, the Austrian Briar, flowers in May. The type has single, yellow flowers, and a form with attractive reddish brown flowers is named Austrian Copper. Perhaps the most useful and attractive of all is Harrisoni, a semi-double yellow variety which makes a splendid hedge or specimen bed 4 feet to 5 feet high.

R. macrantha is a delightful single Rose with large blush white or flesh-tinted petals. It is supposed to be a hybrid between R. canina and R. gallica, and makes a nice bushy specimen.

R. moschata, the Musk Rose, is very vigorous in habit, climbing up lofty trees and hanging in festoons from the branches, clothing arbours or scrambling over old outbuildings. The large panicles of fragrant white blooms are at their best at the end of June and during July. The variety Brunonii is a glaucous-leaved variety, and Pissardii is a semi-double, perpetual-flowering variety not so tall and vigorous in growth.

R. rubiginosa, the Sweet Briar, is well known by reason of its fragrant leaves. It makes a splendid hedge Rose, and is attractive when in flower and laden with fruits in autumn. As the parent of the Penzance Briars, it has resulted in the introduction of numerous delightful additions to our strong-growing single Roses.

R. rugosa, the Japanese Rose, makes a splendid hedge or large bed in the pleasure grounds. The large rosy red blooms and handsome red fruits are freely produced. There are numerous varieties

ROSA SOULIEANA, FROM CHINA.

or hybrids of the rugosa Rose in cultivation with single and semi-double blooms, notably the large white-flowered Blanche Double de Coubert and the fragrant, though quite double, Conrad F. Meyer.

R. sericea is one of the most distinct single Roses with its four-petalled, pure white flowers. It is an excellent Rose to plant as a specimen bush, growing 6 feet to 8 feet high and as much through, with elegant, Fern-like foliage. The variety pteracantha is a most distinct plant, with huge red thorns thickly clothing the branches.

R. soulieana is a tall, vigorous-growing bush with very beautiful glaucous foliage, spiny shoots and long sprays of white flowers, followed in the autumn with orange red fruits. A native of China.

R. spinosissima, the Scotch Rose, grows from 2 feet to 3 feet high. There are numerous varieties with white, yellow, pink and blush single and semi-double flowers. Altaica is a tall-growing variety 3 feet to 4 feet high, with white flowers.

R. tomentosa is a European species including Britain. The rose pink flowers are borne on bushes some 5 feet to 6 feet high during June and July. In autumn the round, red, bottle-necked fruits are prominent.

R. wichuraiana.—The introduction of this late-flowering Japanese Rose has caused quite a revolution among climbing or rambling Roses, and it begins to make one wonder what our gardens looked like before the coming of Dorothy Perkins, Hiawatha, American Pillar and numerous others. Being an evergreen species, R. wichuraiana is very useful for clothing bare banks and tree stumps. The dainty white blooms, with a tuft of yellow stamens in the centre, are at their best during August and September. A. O.

HINTS ON STANDARD ROSES.

IN order to have first-rate standard Roses it is necessary to commence with good Briar stocks. I prefer to collect my own Briars from the hedgerows in the autumn, but, needless to say, it is not everyone who would care to take up this pursuit. Where choice is possible, I prefer two year old shoots for stocks, and, failing them, three year old shoots, but growths in the first year are generally to be avoided, as the wood is often soft and pithy. Stocks without roots at all will grow if grubbed out below the surface of the soil, but these should only be used when short. That there is an element of risk in leaving the collecting of Briars to the uninitiated is seen by the amusing incident related by the late Rev. A. Foster-Melliar, Rector of Sproughton, Suffolk: "When I was ill one winter I was pleased to hear that a parishioner had brought me a nice lot of stocks at a reasonable price. One of the first acts of my convalescence was to inspect their quality. And alas! not only were the majority practically useless, from chops and other injuries, but a third of the whole were not Rose stocks, but Blackberries!" Of course, it is not necessary to collect Briars from the hedgerows, as these may be raised in any garden or, better still, purchased already worked and made into standard Roses from the nurseryman, and this is unquestionably the best course for the beginner to pursue.

Standard Roses are sometimes injured by wind and frosts, and, where possible, they should be sheltered from the north and east. Shelter is also advisable from the south-west, as it is from this quarter that our strong winds blow, which may cause the stakes to break off near to the soil-level. In such cases the old stumps should be drawn from the earth and the stakes renewed without delay. Buildings form the best shelter, and that is one reason why standard Roses are often a great success near the approach to the house.

Generally speaking, Hybrid Teas make the best standards. The Hybrid Perpetuals are often too vigorous, and are seen at their best when pegged down in beds. Teas, however, make good standards and often produce the finest exhibition blooms. The varieties Hugh Dickson, Mme. Abel Chatenay, Lady Ashtown and A. R. Goodwin make admirable standards, but a variety that has excelled itself for profusion of bloom this year is undoubtedly Florence Pemberton, the subject of the illustration. The photograph from which the illustration was prepared was taken in mid-June, although at the time of writing (October 2) there is even a greater abundance of bloom to be seen on the same trees. It is a much-debated point as to whether other plants should be allowed a place in the Rose garden. But for standard Roses, at least, a low carpet of some other flowering plant will do much towards hiding the surface soil and the bare legs of the standards. For this purpose nothing is better than the Viola, although Mignonette is likewise very suitable. If Violas are used, then whites or pale yellows such as White Swan and Primrose Dame will be more in keeping with the Rose garden; the mauve and purple shades should be excluded.

A BED OF STANDARDS OF ROSE FLORENCE PEMBERTON, WITH VIOLA WHITE SWAN AS A CARPET.

Weeping standards are much in favour now, and deservedly so, for it would be hard to conceive a more lovely object on a lawn than, say, a weeping standard of Delight, with drooping sprays wreathed in bloom down to the level of the lawn. Many varieties, notably Alberic Barbier, Hiawatha, and Shower of Gold, may be grown in this way, while Blush Rambler, Dorothy Perkins, Lady Gay, Hélène, Grüss an Teplitz and Mme. A. Carrière are just a few of the free-headed standards that look well in isolated positions on lawns. C.

COLOURED PLATE.

PLATE 1478.

SINGLE AND SEMI-DOUBLE ROSES.

DOUBTLESS many living rosarians can recall the time when single and semi-double Roses were held in very poor esteem, and to have awarded them gold medals would have brought down upon the heads of the judges considerable disapproval. This has all been changed, and to-day we find a growing regard for the exquisite single and semi-double Roses, especially those of almost ever-blooming quality, that we trust will long remain.

It was thought when Messrs. Alexander Dickson and Sons gave us Irish Elegance in 1905 that the climax of beautiful colouring had been attained; but this celebrated firm have now produced Irish Fireflame, one of the subjects of our coloured plate, which, we venture to say, will soon be in every garden in the land. One could obtain some idea of its beauty when it was staged for the gold medal and secured it at Southampton last year, but to see it growing in its home at Newtownards, as we have done, has made our task of writing about its charms one of real pleasure. At Newtownards we saw row after row of it growing in the greatest luxuriance, appealing to us not alone by its wonderful colour, but also by the beauty of growth, foliage and habit.

There has been some correspondence in our columns regarding the free blooming of Irish Elegance. We may say here that this grand Rose

TWO NEW ROSES—
Single: Irish Fireflame.
Double: Queen Mary.

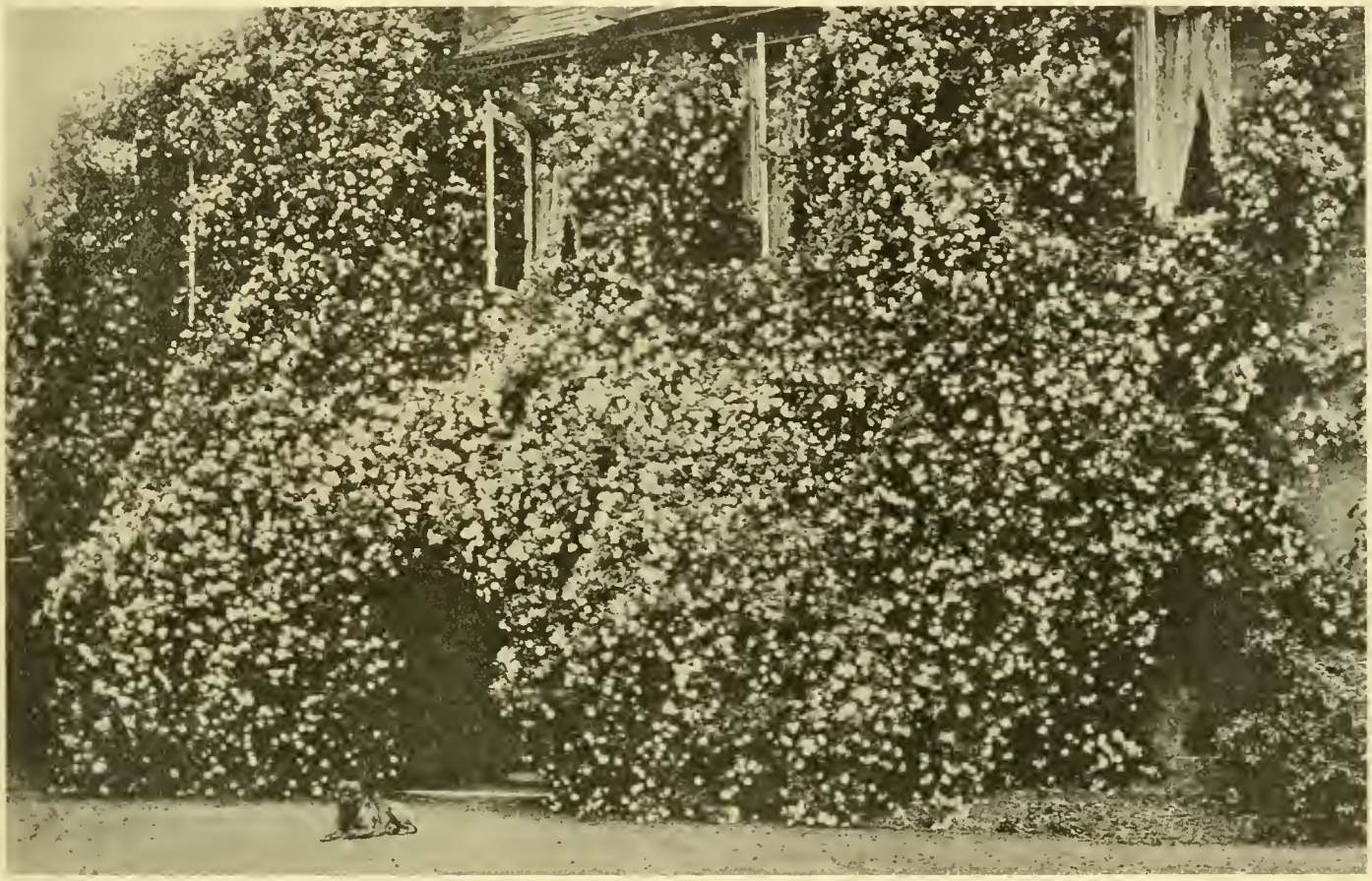
Hudson & Kearns, Ltd., Printers, London, S.E.

is always in bloom with us upon practically unpruned bushes, some as much as 4 feet through, others 7 feet to 8 feet high on east walls, all treated alike, that is, a sparing of the pruning-knife. Irish Fireflame, growing like this, will be one of our very best garden Roses, and will doubtless be planted in quantities; for where is there any more exquisite or elegant Rose for decorating a table?

We shall always retain a vivid recollection of the first time Messrs. Dickson exhibited Queen Mary, the second subject of our coloured plate. This was at the Festival of Empire, Crystal Palace, on which occasion it was awarded the silver cup as the best seedling Rose shown. This was soon after the advent of Juliet, and we could not help remarking that there was in its wonderful colouring something that recalled that wonderful Rose. The remarkable colouring of canary yellow and carmine, the latter shade being crayoned upon the yellow and not infused, makes this Rose a gem of rare beauty, and Messrs. Dickson could not have chosen a more lovely Rose to bear the name of our gracious Queen. The growth is vigorous, and, as we saw it growing, its habit and bronzed apple green wood gave one the impression that we had here a Rose of real merit, and one of which there could be no cavilling as to the correct estimation it has obtained at the hands of the National Rose Society when they awarded it the gold medal in July last.

The great merit of the two Roses named above, apart from their colouring, is in their practically perpetual-flowering quality, and here they score largely over the single and semi-double species that are not perpetual. We feel sure there is a great future for such Roses, and many of the novelties not yet in commerce, which we saw at Newtownards, Belmont and Portadown during a recent visit to Ireland, displayed such a remarkable shrub-like habit that we thought then what perfect-flowering shrubs they will make and how our gardens will be enriched by their introduction.

Our advice to raisers is to strive after the glowing tints that are absent among flowering shrubs, and also for the hardiness and the true perpetual-blooming of the old common Monthly Rose, and we can accord them in the name of our readers a very generous welcome.



ROSE BENNETT'S SEEDLING ON THE FRONT OF ROSEBANK, BERKHAMSTED, THE RESIDENCE OF MR. E. MAWLEY, SECRETARY OF THE NATIONAL ROSE SOCIETY.

ROSE BENNETT'S SEEDLING.

THE Rose growing over the north-west front of my house at Berkhamsted is an old Ayrshire Rose known as Bennett's Seedling, and was so-called after the gardener who raised it. It is also known as thoresbyana, because it first saw the light in the gardens of Thoresby Hall, Lincolnshire. Even at the present day it would be difficult to find any climbing Rose possessing so many good qualities. As will be seen by the illustration above, it is remarkably vigorous and free-flowering. It is, moreover, perfectly hardy. The flowers are pure white, well formed and very fragrant. I myself can claim no credit for the surprising growth this variety has made here, for beyond, every few years, cutting out some of the dead wood at the back and nailing up the more rampant shoots, it has received no cultural care whatever. The original plant, which covers two-thirds of the space on the front of the house and a large space at the side as well—which is not seen in the illustration—I found growing on the left-hand side of the porch when I first came to Rosebank twenty-eight years ago. Judging by the size of the stems then, I should say it must have been there from fifteen to twenty years. The plant on the right-hand side of the porch was put in by me about twelve years ago, and, considering the time it has been there, has done equally well. This part of the front was covered with a Wistaria when I came to Rosebank, but as it flowered, as a rule, so sparsely, the Rose on that side was allowed to do its worst, and, as will be seen, has at last succeeded in completely smothering the Wistaria.

I can truly say I have no other Rose in my garden which behaves itself so consistently well, or gives so little trouble or so much pleasure. It is, as I said before, perfectly hardy; in fact, whatever the previous winter, spring or early summer may have been, it year after year without fail presents the same sheet of pure white blooms when in flower. It is never troubled with any insect or fungoid pest, and notwithstanding drought,

frost, cold winds or other enemies, which every now and then so seriously affect the well-being of other Roses, always comes up smiling at the flowering-time.

But there is a reverse side to every picture, however lovely. In this case there is the sad fact which I have intentionally left till the last, and that is it only flowers once in the year, and then only for a few weeks, which in these days of continuous-flowering Roses will, no doubt, be regarded as a drawback. Still, Bennett's Seedling is a climbing Rose well worth growing for many reasons, and there will, no doubt, occur to your readers many positions where such an adaptable variety would prove invaluable. If not ever-flowering in the summer and autumn, it is in most winters evergreen.

Edward Mawley.

A BASKET OF ROSE CHERRY PAGE, A NEW DECORATIVE VARIETY OF RARE BEAUTY AND FRAGANCE.

ON SCENTED ROSES.

WHY is the Rose always considered the premier flower? Surely the answer is because it has more good qualities than any other variety, and of these good qualities that of perfume must rank pre-eminent. To my mind there are other flowers whose perfumes are delicious in moderation, but when cut and left in a room one soon experiences a sense of heaviness and a tendency to headache. The Rose cannot be accused of this habit. In a Rose there is a subtle blending of odours such as you do not get in any other flower, and this is well exemplified when different people are asked their opinions upon a certain flower, *e.g.*, Mme. Wagram. To some the perfume is delightful; to others the odour is not nice.

Then, again, the temperature of the atmosphere has a good deal to do with the value of the perfume-giving quality that any particular flower gives off. If a census of opinions the world over was taken as to the most delicately-perfumed Rose, surely that old variety, La France, would win easily—and in my humble opinion there is no Rose that can equal this variety. [We prefer Mrs. John Laing.—Ed.] Why do the dark red Roses easily outshine any others in perfume? This is answered: Because most of them have coursing through their veins the blood of the Old Damask. Why, then, is it that certain Roses, new productions due to the hybridiser (who, maybe, has used a dark Rose in his cult), have no perfume? There I leave you. He, in his endeavours to cross one variety with another, has transgressed some law which Nature alone knows. This last remark may seem strange to some, but it is an undoubted fact that most of the modern Roses are sadly deficient in perfume. Frau Karl Druschki, William Shean, Mrs. Theodore Roosevelt and Mildred Grant are practically scentless, yet, withal, they are glorious flowers.

Now, if we turn our minds to those sweetly-scented varieties, we shall find that the list is a very large one, and we can find nearly every colour therein in flowers to suit our eyes as well as our olfactory lobes. Of the pink varieties we have Mrs. John Laing, Countess of Caledon, Gustav Grunerwald, Dr. O'Donel Browne, Mme. Gabriel Luizet and Gladys Harkness — all perfectly-perfumed Roses and all good, honest growers. The variety named after myself, I consider, has a grand perfume, and is a good doer in every way. Sometimes I wish I were the flower! Of crimsons we have a great list; indeed, they are nearly all sweet-scented. Who can find better Roses than Alfred Colomb, Hugh Dickson, W. E. Lippiatt, Marie Baumann, Senateur Vaisse, Ulrich Brunner, George Dickson and Laurent Carle?

Should the reader require a different perfumed Rose to any I have mentioned, he must turn to the pure Teas. Why are they called Teas? Is it because they are scented like Tea, or is it because their first parents came from China? The scent of Tea Roses is, in my opinion, an acquired one; it grows on one like tobacco. Marie van Houtte, Mme. Hoste, Maréchal Niel, Mrs. Edward Mawley and Alexander Hill Gray are a few of those which possess the highest degree of Tea Rose perfume. Among climbing Roses, one has but to think of François Juranville, Gerbe Rose, Bennett's Seedling, and many others that are a great acquisition over a summer-house. Then, again, one must not forget the Hybrid Sweet Briars which the late Lord Penzance has bound inseparably with his name. These plants are at their best during an early summer evening after a shower of rain. There can be no gainsaying the fact that there are a great many people who, unless a Rose has a definite perfume, will have nothing to do with it. This is not fair. Indeed, they go so far as to say that it should have been "drowned when a pup." Do they realise that this same Rose, scentless I grant you, may some day be the parent of a flower outrivalling even La France? Where would Frau Karl Druschki stand if it could emit the odours of Horace Vernet or Charles Lefebvre? No; let us be thankful that we have Roses both scented and unscented. The one enhances the other, and makes us all the more consider their merits.

O'Donel Browne, M.D.

Gortnagrena, Naas, County Kildare.

ROSE CHERRY PAGE.

THERE was a basket of Roses exhibited at the National Rose Show in July last which attracted considerable attention, and we have the pleasure to illustrate this basket in our present issue. The variety was named Cherry Page, after the daughter of our able correspondent, Mr. Courtenay J. Page, who is also a prominent member of the Council of the National Rose Society. The Rose belongs to the decorative section of the Hybrid Teas. Perhaps we should be correct in saying that this variety is one of the most remarkable coloured Hybrid Teas we have met with for a long time, and it is a most difficult task to define its true colouring. Mr. Walter Easlea, its raiser, informs us that there is no variety among his large collection of Roses at Eastwood that calls forth so much admiration, especially from lady visitors, as Cherry Page, and we are pleased to know he is placing it on the market next spring. The colour is a glowing orange cerise, with shading of vermilion towards the edges of the petals, and the base of the petals is a beautiful daffodil yellow. The growth is very strong and erect, sending up fine, rich ruby coloured shoots and foliage that blend so well with the lovely flowers. The Rose is semi-double, with huge petals, and during very sunny weather the flowers expand to a width of 5 inches, revealing the golden centre and a wealth of golden stamens. For table decoration we believe Cherry Page has a great future, and feel sure it will take a leading place among Roses planted for massing and general garden decoration.

ROSES FOR BEDDING.

LA FRANCE AND CAROLINE TESTOUT PLANTED ALTERNATELY WITH RAMBLERS INTERVENING.

THE best varieties of Roses for exhibition are not always the best for garden decoration. The former concentrate all their energies on producing a few (sometimes very few) choice, well-finished flowers, while the varieties suitable for the latter purpose are those which produce a quantity of bloom throughout the season, that is, from June to the end of October, and, when the season is favourable, right up to Christmas. For instance, we would never think of planting such varieties as Dean Hole, William Shean, Bessie Brown, Mildred Grant, Albatross, Maman Cochet and Mrs. J. Laing for producing quantities of bloom, but rather such varieties as Caroline Testout, La France and its sports, Mme. Abel Chatenay, Prince de Bulgarie, Joseph Hill, General Macarthur (probably the best red Hybrid Tea we have), Lieutenant Chaure, Richmond, Liberty, Duchess of Wellington, Antoine Rivoire, Grüss an Teplitz and Frau Karl Druschki.

In small beds one variety only should be planted, but in beds that will take from two dozen upwards, two or three varieties, preferably of one colour, should be used. In this way a more continuous display may be looked for, as the chances are that one or other of the varieties will produce blooms right through the season. The above illustration shows a bed planted in this way; Caroline Testout and La France planted alternately with ramblers down the centre, and bordered with White Pet. The other illustration depicts borders of light-coloured varieties, which bloom continuously right away through the season and were producing last November first-class blooms.

The dainty little China Roses, too, lend themselves admirably for the purpose of producing a continuous and pleasing effect, and a mixture of Comtesse du Cayla, Chin Chin China, Mme. Eugène Resal and Laurette Messimy (the last two in the centre of the bed), carpeted with some pale, contrasting coloured Viola, will delight the eye for months for a fraction of the trouble necessary to keep ordinary bedding plants in good trim, and the wonder is that we still continue to use the latter as we do when we can get such a variety of pleasing combinations with the sweet-smelling and varied coloured Roses.

The colours of many of our hardy herbaceous plants associate well with those of Roses, but care must be taken that no "self-assertive" colours, but only the quiet soft ones are used. Scarlet, or bright red especially, should never be planted where they can be seen at the same time as the Roses.

The distance apart for planting must be regulated with an eye to the future, the weaker-growing ones (especially if no "carpet" is intended) being placed rather closely together, only allowing sufficient space for the hoe to be worked, while the stronger varieties should be allowed more room and pruned rather sparingly. J. B. Clark requires quite 9 square feet for each plant, Grüss an Teplitz (one of our sweetest Roses) the same, and neither of them should be pruned beyond taking out the old wood and slightly shortening back the young. The same may be said of most of the strong, vigorous varieties. R. B. L.

BORDERS OF LIGHT-COLOURED ROSES AT WOOD HALL, DULWICH.

ROSES TO GROW AS LARGE SHRUBS.

IN the search for fresh effects in the Rose garden, the use of the larger bush or shrub Roses must not be overlooked. We know how in the last few years the introduction of ramblers as weeping standards has changed the aspect of Rose gardening. Similarly, by the use of the larger shrub Roses we may obtain effects of a wider colour range and more varied habit. Even some of the wichuraiana Roses used as standards are perhaps more successful if used as bushes. Kinds such as Paul Transon, Ariel, Robert Craig and others with their upright growth make big, bold pillars; and Gérbe Rose is, with its glossy foliage, an almost ideal bush, often blooming again in autumn. It is to the perpetual-flowering kinds we must look most, for the older kinds, such as Andersoni, the Damasks and the Austrian Briars, pretty in their way, are not things of beauty in the autumn,

being only summer-flowering. The Austrians, however, have recently given us autumn-flowering hybrids which are well suited for this purpose. Through Soleil d'Or have been obtained Juliet, the beautiful and distinct Beauté de Lyon, and Louis Barbier, and doubtless there are others to follow. A tall-growing Rayon d'Or would be an achievement indeed. The rugosas, too, are autumn-blooming. Conrad F. Meyer is an almost perfect Rose grown in this way, and Blanc Double de Coubert and atropurpurea are hardly less suitable.

By entering into the large and comprehensive class of Hybrid Teas we also find some which are shrub kinds. Grüss an Teplitz with its cascades of flower, its offspring Hugh Dickson, and J. B. Clark form a trio of similar foliage and habit. There is a Rose, Mme. Wagram C. de Turenne, included in this class which is essentially a Bourbon, derived from Souvenir de la Malmaison and crossed, it is said, with a Dijon Tea—let us hope with the old Gloire de Dijon, for it would be pleasant to know of the successful marriage of two such old favourites. It is most distinct in foliage and general appearance, and flowers well into the autumn. Allusion to the Dijons reminds us of Bouquet d'Or and Mme. Bérard, both making big bushes; and the same may be said of William Allen Richardson.

It is to the Noisettes and other Musk hybrids, in fact, that we must look in the future, for it is among these that the desired qualities lie. The white and pink forms of Pissardii are both shrub Roses, and so are Aimée Vibert and Alister Stella Gray. All these, however, are well known, but there are some later introductions which can be instanced as distinct advances in this direction. Trier, the first of these, was followed by Adrian Riverschon, with large trusses of single flowers, rose, with white eye, now (on September 12) in fullest bloom and about four feet high. It is a new colour in the Musks, and well worthy of cultivation in the bush form.

Much praise must be given to Mr. Pemberton's beautiful novelties Daphne, Danäe and Moonlight, which received such high awards from the National Rose Society. The last two, so well exhibited at the recent autumn Rose show, are destined to a prominent place in the Rose garden, and I think their true place is here among the shrub Roses.

I will conclude the list by naming Zephyrine Drouhin as distinct and beautiful grown in this way. Standing singly upon lawns and extended into shrubberies, these Roses have a charm peculiarly their own, while planted in the wild garden they, with their masses of bloom, and in some cases berries, enliven and enhance the scene, especially when in proximity to autumn foliage and surroundings.

G. L. PAUL.

THE BEST ROSES FOR PERGOLAS.

IN making a selection of the most suitable Roses for a pergola, I would like to confine the list to varieties of the wichuraiana type, because they possess all the attributes that go to make a successful pergola display. The objection to this method of classification is that this section does not flower until the middle of July, and oftentimes later, whereas some of the varieties in other sections open their blossoms quite early in the season—for example, Carmine Pillar in June—and thus we get a longer and more interesting flowering period. With the object, then, of catering for all periods of flowering, I make the selection more of a general character. Although Roses have increased enormously of late, we are still without a good yellow climber after Aglaia and Claire Jacquier are over. I am often asked to name a yellow to flower at the same time as Dorothy Perkins. I confess I do not know of one that I can recommend. Of white-flowered varieties, too, there is a dearth at the same period. If it were not for White Dorothy, we should be quite without a late-flowering variety. I will, then, as briefly as possible, enumerate two dozen of the most suitable, leaving planters to make their own selection of a few or many, giving the points of excellence of each as they open in order.

THE NEW GOLD MEDAL ROSE MRS. JAMES LYNAS, RAISED BY MESSRS. HUGH DICKSON, LIMITED. COLOUR, RICH BLUSH PINK.

Carmine Pillar (Paul and Son, 1896) produces its large, single flowers in profusion; rosy carmine.

Brunonis, the Himalayan Briar, has pure white, single flowers with yellow stamens, produced in the greatest profusion quite early, giving a most pleasing perfume.

Aglaia (Lambert and Reiter, 1896) is often called the Yellow Rambler. In colour it is pale yellow, with a strong Tea perfume. Its shell-shaped petals last a long time. This Rose does not come readily into flower in quantity until it becomes established, and often, owing to mistakes in pruning, it has been condemned as a shy-flowering variety; but I can assure my readers it is not so when properly treated, allowing the long, vigorous shoots to remain unpruned.

Claire Jacquier (Bernaix, 1888), nankeen yellow, very free, sweetly perfumed and with deep green foliage.

Mme. Alfred Carriere (Schwartz, 1879).—The buds are delicate pink, the fully-expanded blooms pure white.

Crimson Rambler (Turner, 1893) is still unequalled for brilliancy of colouring and freedom of flowering; but, unfortunately, it is so susceptible to mildew, except when great care is exercised in its cultivation.

Mrs. F. W. Flight (Flight, 1905), rose pink with white centre; semi-double. The trusses are produced in huge clusters. This Rose probably lasts longer in flower than any other; it is of sturdy growth.

Tea Rambler (Paul and Son, 1902), coppery pink, with a salmon flush.

Blush Rambler (B. R. Cant and Sons, 1903) is of extra strong growth, producing its huge trusses of rich blush, white-centred flowers freely.

American Pillar (Conrad, 1909).—If it were possible to say which is the most showy Rose in the whole section of climbing varieties, I should name this. In growth it is very vigorous, single shoots running up as much as 16 feet in one season, which the following year give huge crops of bloom, as many as twenty flowers in a cluster. In colour crimson, with a pure white eye.

Paul's Single White (G. Paul and Son) is a vigorous-growing, free-flowering variety, giving its pure white, single flowers in abundance.

Flame (Turner, 1912), bright salmon pink, produced in huge clusters; strong, vigorous growth.

Debutante (Walsh, 1903) produces its long racemes of rosy pink blooms freely, and owing to the manner in which they droop, are specially suited for a pergola.

Evangeline (Walsh, 1907) is a hybrid wichuraiana, growing freely and giving huge quantities of its white-centred, pink-tipped single flowers.

Francois Juranville (Barbier, 1906) gives large flowers often singly as well as in clusters, and is continuous in flowering; bright salmon pink with an orange base.

Sweetheart (M. H. Walsh, 1903) is quite the best of white climbers of the wichuraiana type. In bud the colour is pale pink, changing to pure white as the flowers expand. The blooms are quite double and sweetly perfumed.

Minnehaha (Walsh, 1905), dark rose, quite double, sweetly scented. The blooms are somewhat widely set apart, which gives the plant a distinct character.

Dorothy Perkins (Perkins, 1902) is still one of the most suitable for pergolas, giving its soft light pink flowers in great abundance.

Lady Gay (Walsh, 1903) is so often confused with Dorothy Perkins that many people have come to regard them as being identical, which they are not. Lady Gay has cherry pink flowers much larger than Dorothy Perkins, while the trusses, too, are larger and the flowers more widely set apart.

Dorothy Dennison (Dennison, 1909) is identical with Christian Curle and Lady Godiva. It is a shell pink sport from Dorothy Perkins, having all the desirable characteristics of its parent in growth and freedom of flower.

Excelsa (Walsh, 1909) is best described as a scarlet Dorothy Perkins. In colour it is the most brilliant of all, growing freely and blooming in the same manner.

Hiawatha (Walsh, 1905) is a brilliant scarlet, single-flowered variety, producing its lasting flowers in freedom.

Coronation (Turner, 1912), bright crimson, shaded scarlet, splashed with small white streaks; of free growth and flowering.

White Dorothy (Paul and Son and B. R. Cant, 1908) is a white sport from Dorothy Perkins. Unfortunately, the colour is not pure, having here and there splashes of pink. In any case it is desirable, flowering as it does quite late in the season.

The remarks on cultivation will be necessarily brief. Deeply-trenched, heavily-manured, stiff soil fully a month before planting to allow the soil to settle down to near its natural level is all that is required in preparation. Planting is best done at the end of October, as fresh roots will then be made in the autumn, thus giving the plants a good start in the spring.

Pruning the first year is important. Planters like to have a full crop of flowers the first season. This, or a partial crop, can be secured from some varieties; but it is not wise to allow the plants to do so, as the growth made then is not so strong as is desirable to cover the pergola quickly, which is the object to aim at. It is wise, then, under these conditions to cut the plants down in the spring to within a foot or so of the soil, to induce the growth of strong basal shoots, which will give a full flower crop the next year. Another plan to treat plants with several shoots is to cut half of them severely and allow the remainder to give flowers at once, simply removing the top of each shoot so retained. The second year and afterwards cut away all small growth that has given a flower crop, if abundance of new shoots from the base has been made. This pruning is best done directly the flowers have faded, thus giving more light and air to the remaining shoots.

Feeding the plants to maintain vigorous growth is important. Sometimes manure cannot easily be added to the soil. In that case liquid manure applied freely during the growing season is beneficial, and so are sprinklings of soot applied to the surface during showery weather, or any of the artificial manures advertised applied judiciously. Green fly is quite the greatest pest Roses have to contend with in the spring. If the plants become infested with this aphis, the growth is checked and the season's flower crop spoilt. Prompt measures should be taken directly the first fly appears. I have found nothing better than McDougall's "Katakilla," which is so simple of application and effective.

In forming a pergola, so many persons make the mistake of having it too low; 7 feet I recently saw one. This height does not allow of the flower-sprays hanging down in comfort, which is the charm of all pergolas and the natural tendency of climbing Roses, especially of the wichuraiana type. No pergola to be satisfactory should be less than 8 feet high, the same width, and that distance from post to post.

Swanmore. E. Molyneux.

IN A HAMPSHIRE GARDEN.

SOME OF THE NEWER ROSES.

THE year 1913 will not go down to posterity as an *annus mirabilis* in Rose annals, for the Clerk of the Weather, that presiding genius of the feast, has not been too kind, and has distributed his favours with somewhat too partial a hand to please all or even the majority of us; and while some of my friends have called it a dry summer, others complain that there has not been enough sun, and that mildew has been very prevalent; but the more favoured ones have not had much cause to complain, and the South and East of England have had a good Rose year. At any rate, in this neighbourhood we have had, and are still having, one of the finest summers I remember. There have been no extremes of heat. On the contrary, though fine, it has been a cool summer, and Roses have benefited accordingly. As I write, in the last days of September, not only are there plenty of flowers, but the promise of many more to come is even more apparent, and only Jack Frost is likely to prevent their coming to bloom and brighten the November and December days.

This is, after all, *the* feature of the newer Roses. Much as the hybridist has improved colour, form and scent, his greatest advance has been in evolving a type of Rose that combines all these three most desirable attributes with an enhanced length of flowering period, almost in some cases continuous, so that the plant carries flowers all the time from May until December. Although I have headed this article "In a Hampshire Garden," I shall not absolutely confine myself to only those Roses that are growing therein; for new Roses are now so numerous that even our largest trade growers are hard put to it to find room for them, and it is obvious my small garden, of less than half an acre, cannot contain more than a selection of the best, so that I shall find myself referring in these notes to Roses seen in the tented field, the lofty hall, the nursery grounds of our great Rose-growers, and where, I venture to think, they are at their best—in the gardens of those who love them. Still, I am firmly convinced that it is but little one can know of Roses if you have not grown them, and I shall always indicate this absence of the soundest basis on my part Another reason why I have headed these notes "In a Hampshire Garden" is that I do not want them to be misleading, and if I am led to recommend a Rose because of its behaviour with me, it does not necessarily follow it will behave in the same fashion in the North of England. It is only another illustration of the truth of the saying that the best knowledge is that gained by one's own experience. The great secret of all successful gardening is to find out what you can grow, and grow it. We are all constituted much on the same plan, but our elevations are varied; and while one garden enthusiast seems to turn his garden into a kind of hospital where all the inmates are patients, each undergoing a course of treatment and mostly barely existing, another, equally enthusiastic, will not have anything to do with a delicate subject. If it is not robust and enjoying its life to the full, seemingly making the very best of what the gods provide, out it comes, to make room for something that will. In my own case, if I have any leanings, it is towards the latter of these two, and where one's space is limited it seems to me that one gets more satisfaction; but it is not so with everyone. They prefer a tender plant that must be coddled and protected to one that will look after itself and cause no anxiety. That is, perhaps, one reason why I grew but few Tea Roses till I came South. Here they can take care of themselves and get very little different treatment from the rest of the Roses; but a Tea Rose that is healthy and robust and strong down here is a very different subject further North.

Perhaps before setting down in detail the descriptions of the newer Roses, it might be advisable to take a general survey of the Roses of the year and just mention a few that have seemed to stand out partly from their own intrinsic merits, or from the climatic conditions at the moment having suited them. It is not necessary to divide them into classes. I will mention them as they occur to me. It is a very long time since a Rose distributed one year proceeds in the next season to occupy such a prominent position as George Dickson has this year. It is undoubtedly entitled to be called the finest exhibition Rose of its colour, and among exhibitors that are keen, few would care to be without it. Not only the raisers, Messrs. Alex. Dickson and Sons of Newtownards, but at one time or another all the big growers seem to have been able to produce fine flowers of this variety, and those amateurs who were fortunate enough to secure plants or buds of it last season have been able to show very fine flowers throughout the year. Most of the flowers shown have actually come from maidens, but it has been quite good with me on cut-backs; it is a good grower, with fine constitution, and not subject to mildew. I do not mean to say it is mildew-proof, but it has been practically free from mildew with me. It has stood out, so that if 1913 could be labelled, as Rose years sometimes are labelled, with the name of any particular Rose, I think it might fairly be described as a "George Dickson year."

Among other Hybrid Teas that have been particularly good on the show-bench, one would name Avoca, Dean Hole, J. L. Mock, Mrs. Cornwallis-West, Lady Alice Stanley, Mabel Drew,

Mrs. A. E. Coxhead and Mrs. J. H. Welch, and we have seen more of John Ruskin, William Shean, Dr. O'Donel Browne and Yvonne Vacherot than usual.

Hybrid Perpetuals have been very fine in colour; the cool weather has suited them. Messrs. B. R. Cant's second-prize stand in the trophy class at Gloucester stood out in this respect. Gloire de Chedane Guinoisseau, Hugh Dickson, Horace Vernet and Victor Hugo have all been good; but some of the older favourites that used to be in every box were missing this year. Roses like Ulrich Brunner, Mrs. R. G. Sharman Crawford and Captain Hayward were seldom seen, and that old stand-by, Mrs. John Laing, has been conspicuous only by its absence, and very few silver medals have fallen to its lot. Speaking generally, Teas throughout the country have not been good or up to the usual standard. The two Cochets, Mrs. Edward Mawley and Souv. de Pierre Notting have almost failed us. I should say Mrs. Foley Hobbs is entitled to be called the best Tea of the year. Mme. Constant Soupert has been more frequently exhibited than usual. W. R. Smith, A. Hill Gray, Molly Sharman Crawford and Mrs. Herbert Taylor have all been good. Mrs. Myles Kennedy has been often conspicuous; but it has not been a good Tea year.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

NEW ROSE MRS. JAMES LYNAS (H.T.).

ON page 516 appears an illustration of this new Rose, shown by Messrs. Hugh Dickson, Limited, Belfast, at the National Rose Society's London Show in July last. It is a beautiful Hybrid Tea, of erect habit, the colour of the blooms being rich blush pink overlying silvery white. It is one of the best of the gold medal Roses of the season.

THE BEST ROSES FOR PEGGING DOWN.

PERHAPS before giving a list of the best Roses for pegging down, I may just say a word or two upon the system and its advantages. Some reader may ask the question: "Why do you peg down Roses, seeing there are such a number of good varieties of compact habit that will grow quite evenly without this artificial aid?" and my reply to this would be that we should be forced to exclude certain kinds that one would much desire to have, only that their exuberant growth bars them from being associated with ordinary bedding Roses. Take, for instance, a bed of William Allen Richardson. It provides us with a glorious rich orange colour, as a rule, but unless pegged down it is very apt to appear ungainly. Another splendid and almost indispensable variety is Frau Karl Druschki. Here, again, its vigour is too often quite embarrassing, and unless annually lifted it must be pegged down. Alister Stella Gray is seen to great advantage when pegged down, and there are several strong yellow Roses, usually classed as climbers, that are very effective when pegged down, producing shades of colour much needed among bedding varieties.

Good crimson Roses, too, are still scarce for massing, and if we can employ such as Hugh Dickson, Sarah Bernhardt, Grüss an Teplitz and Florence Haswell Veitch for this purpose, they would be warmly welcomed; but to use such Roses as bedders without pegging them down would make them quite out of harmony with other bedders.

Generally speaking, it is the strong young growths that are the best for pegging down. Supposing one intended pegging down a bed of Frau Karl Druschki, the plants would be pruned hard in the spring, similar to ordinary Hybrid Perpetuals. The young, vigorous growths as they appear and are long enough are just bent over almost horizontally about a foot from the soil, attaching them to unobtrusive wood or zinc pegs placed at convenient positions. The quantity of bloom from this Rose when pegged down is easily trebled. As regards the Climbing Teas, Hybrid Teas and Noisettes, I would suggest that one or two good ripened young growths of the previous year be retained about three feet to four feet long at pruning-time, and as soon as all danger from May frosts has gone, bend the shoots down as advised above. As the young growths appear from the base of the plants, peg these down also, unless they show flower-buds, in which case allow them to grow erect. William Allen Richardson, Bouquet d'Or, Mme. Pierre Cochet and Celine Forestier will usually send up growths in late summer from their base that are crowned with buds when but 2 feet or 3 feet high. This is when the plants have been previously pegged down in spring. It is advisable to pinch out the ends of the new growths when they have grown about a yard, in order to ripen them and to encourage bloom. Roses of the somewhat erratic growth of Mme. Abel Chatenay and Joseph Hill may be partially pegged down; that is to say, those shoots that start growing so vigorously in a slanting position. Just bend them down almost horizontally. They will not only break into new growth themselves, but basal eyes are encouraged to start out also.

PART OF A BED OF ROSE LADY WATERLOW, THE SHOOTS OF WHICH HAVE BEEN PEGGED DOWN.

Polyantha Roses of the Orleans and Jessie type often grow too tall for their positions. A simple remedy for this is to peg down the young growths. Each year in late autumn some of the pegged-down growths may be cut away when all flowers are over, or the work can be deferred until spring; but our object should always be to encourage young basal growth, and thus keep the plant in a juvenile condition. For the same reason that we peg down bush Roses, standards may have their growths tied over umbrella fashion, and the result will be far more bloom, although this is sometimes deferred until the second year. The illustration on this page depicts a large bed of that charming variety Lady Waterlow, which is so well suited for pegging down. Good varieties for this purpose, in addition to those already named, are Boule de Neige, Billiard et Barre, Crépuscule, Gustave Regis, Climbing Mrs. W. J. Grant, François Crousse, Conrad F. Meyer, Nova Zembla, J. B. Clark, Juliet, Beauté de Lyon, Ulrich Brunner, Tom Wood, General Jacqueminot, Paul Neyron, Charles Lefebvre, George Dickson, Johanna Sebus, King George V., Mrs. Cornwallis-West, Mme. Wagram, Lyon Rose, Zephyrine Drouhin, Aimée Vibert à fleurs jaune, Bardou Job, Avoca, Fairy, Lina Schmidt-Michel, Mme. H. Leuilliot, Belle Lyonnaise, Papillon and Rosette de la Legion d'Honneur. DANECROFT.

GARDENING FOR BEGINNERS.

PERGOLAS, TRELLISES AND ARCHES FOR ROSES.

CLIMBING Roses, however strong-growing some of the varieties may be, require substantial supports on which to train the branches if they are to prove satisfactory. Although substantial supports are needed, it does not follow that they must be clumsy in appearance. Strength may be secured by using really light timbers if the latter are properly prepared and erected in a manner to form a neat-looking structure.

Suitable versus Unsuitable Wood.—Rustic trellises and other kinds of structures are erected in gardens in vast numbers now, and for a time — usually about three years — these erections look very well; then they simply tumble down when a strong gale blows. Green wood, chiefly Birch and Beech, is used. The Birch rots, inwardly first, and then crumbles away; the Beech becomes useless through fungus growing on it and through decay. Such timber, even when of great initial strength, is useless for our purpose. Indeed, it is very annoying to find the structure falling down just when the branches of the plants have covered it, as it is such a difficult matter to erect another under the branches. Oak, Ash and Hazel are the best kinds to use for arches, pergolas, &c. These timbers last a long time, especially when nicely seasoned and prepared. Then squared posts with caps on and planed laths of just medium strength find much favour in these days for formal trellises and pergolas. Here, again, strength may be secured if the posts are well prepared and the whole of the wood well saturated with creosote.

How the Timber Should be Prepared.—It is bad policy to use green wood full of sap, or to creosote timber saturated with water. Give the laths and planed posts two coats of creosote. The liquid will go right through the laths, and the portion above the ground, being exposed to the drying winds as well as rains, lasts in good condition for many years, because it dries up soon after rain has fallen. It is far more important to prepare the part of each post that is buried in the soil. Some are content to creosote that portion, others to char it. The charring is the most effectual, as simply creosoting will not do. The best plan is to first char and then apply three coats of creosote. The charring dries up all internal moisture as well as rendering the outside part proof against decay. Much mischief results when there is internal moisture, as no matter how well the outer crust is preserved, the inner portion will continue to decay. While in a dry state the creosote penetrates right through an ordinary-sized post. Both the charring and creosoting should be done several weeks prior to the fixing of the posts in the soil. Also, char each post several inches above the ground-level, as very often posts rot off there while the portion below remains sound. Some good ready-made rustic arches or trellis fences can now be purchased from advertisers in The Garden, but readers will do well to avoid cheap, flimsy structures that are offered by dealers of bad reputation.

Good Positions for Pergolas, Trellises and Arches.—The pergola should be straight and run at right angles from some central point or building. Branching portions of the pergola should also be at right angles. Trellises must be erected to form an ornamental screen or shelter to some quarter of the garden—a screen for the protection of other kinds of plants than Roses, or for beds of dwarf or standard Roses, or to secure privacy for the owner. Arches ought to be built in positions to denote a path leading to some other part of the garden, to break up a line of trellis, to span paths where they meet, or to form a series of arches over a long path where it would not be advisable to erect a more close-fitting structure such as a pergola. They must always be of broad dimensions and lofty. Umbrella-shaped erections look really charming in a Rose garden or as isolated features on a lawn. There are many quick-growing varieties of Roses that will soon cover such a structure, and then a feature is secured quite distinct from others in the same garden. Although iron trellises and pergolas are often condemned, they are very useful in Southern Counties where very severe frost is not experienced. At Kew the Roses flourish on iron posts and chains, which have the advantage of being almost imperishable. Some excellent designs in ironwork are now offered by one or two firms which make a speciality of this kind of work.

A RUSTIC ROSE ARCH OF GOOD PROPORTIONS. THE POSTS ARE 1 FEET 6 INCHES APART EACH WAY, AND THE HEIGHT OVER ALL 8 FEET.

Mistakes to Avoid.—The greatest mistake to avoid, after duly preparing the posts and other necessary timber, is that of fixing the posts too close together and too low. The width of the pergola or arch should be at least 6 feet 6 inches; but if there is ample space, make it 7 feet 6 inches or even 8 feet, and quite 7 feet high, because the branches of the Roses, when the latter are established, will require much space to grow in, and persons should be able to pass through the pergola or arch without the slightest inconvenience. Moreover, they ought to be able to enjoy to the full the manifold beauties of each variety of Rose grown.

HOW TO RETAIN SOIL MOISTURE.

Soil moisture is the most important feature of all in gardening, because the power of imparting moisture to the plant is indispensable. Yet the elementary laws which govern it seem to be much misunderstood by amateurs, or, at any rate, often neglected. Much more is now known about the physics of the soil than was formerly the case, and the fineness or coarseness of the soil particles and their composition is found to be intimately connected with this most important subject. This part of the business is where so many people fail. Surface mulching is now well understood as a means of keeping in moisture; but the ground work is even more important, because on it depends whether a soil will store and hold water or not, and there is an enormous difference between soils in this respect.

It may surprise some growers to learn that the wettest soil does not always supply the most moisture to a crop. It is not merely the water content of the soil which has to be considered, but its power of giving this up to plants which is so important. We know that the saturation power of the soil depends partly upon the spaces left between the soil particles, but more especially in their size, and that in an ordinary soil these amount to as much as about forty per cent. of the whole. But this can be much increased if chalk or vegetable matter or good loam forms a certain portion of the soil.

What the cultivator wants is a soil that will give up its water as well as retain a good quantity, a happy medium between clay or peat and sand, and this he should strive to make if it does not exist naturally. Manure or vegetable matter is the most serviceable stuff to use, generally speaking, and some powdered chalk is useful if deficient in the soil. A fine soil should be aimed at, and drainage is all-important, because, after all, soils are most fertile when they are only about half saturated, or rather more, and air and heat can then get in.

Gervaise Turnbull, F.L.S.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Planting Beds.—When beds are to be planted with bulbs as well as with a covering plant, such as Myosotis, Arabis and Violas, it is wise to plant the bulbs first.

Covering Plants, such as mentioned above, should not be planted too thickly, or the bulbs as they come through may be spindly in growth. Many subjects may be used, such as Primroses, Polyanthuses, Wallflowers, Aubrietias, Arabis flora plena and the variegated form. Viola seedlings, I find, are more hardy, and make the best show early in the season; but, whatever is used, due consideration must be given so that the plants when in flower either harmonise or pleasantly contrast with the bulbs.

Double Planting is sometimes practised to secure a longer season of flower, and where the varieties are carefully selected, the results are indeed pleasing. Thus early-flowering, Darwin, or May-flowering Tulips may be planted alternately, and in the same way Hyacinths and a late variety of Narcissus. I have also seen Crocuses, Hyacinths and late-flowering Tulips form a succession which proved very effective. Crocus Maximilian (a delicate shade of lavender) is one of the most beautiful subjects for the early spring garden.

The Herbaceous Border.—There still remain a few subjects in bloom, but in most cases the plants are now in a fit condition for cutting down; in fact, the border should now be thoroughly gone over, pulling up all the annuals, cutting down all matured foliage and growth of the herbaceous plants, and lifting anything that it is desirable to keep from getting frozen. Some of the more tender subjects are best given a little protection over the crowns, and dry ashes and leaf-soil are both useful for the purpose.

Replanting. — There is a great diversity of opinion as to the best time to transplant the various subjects in the herbaceous border, though we are all agreed that borders do better when lifted every second or third season, and many subjects may be lifted and split up every year with advantage. The nature of the soil, I think, should govern the time when it may be done. On light soils it may be done at any time from October to March, preference being given to the autumn months, as then the plants get well established again and are better able to withstand drought. On heavier and colder soils the early spring, I think, is better, as many subjects if split up and replanted in the autumn will die during the winter, there not being the same tendency to make roots quickly in the cold, heavy soil; while if a fairly dry period in late February or March is selected in which to do the work, the chances are that the plants will make root and grow away fairly quickly. At whatever season the work is done, good, deep trenching should be practised and a liberal dressing of well-rotted manure given to the borders; this will greatly modify the need for watering during the summer months.

Sweet Peas should be sown at once for the ordinary summer flowering out of doors. Pots or boxes may be used at the discretion of the grower, placing them in a cold frame after sowing. This should be kept well ventilated as soon as the seedlings are through the soil.

Plants Under Glass.

Stove Plants generally will not now require so much moisture either at the root or overhead, Dracænas especially not caring for this latter during the winter months; but as the necessity arises for more fire-heat, the need for damping the stages, beds and floors will also increase, this to maintain the necessary atmospheric moisture to keep down insect pests.

Acalyphas that may have become unsightly through using them in the conservatory or the house should be cut down, retaining sufficient of the cut-down plants to furnish a supply of cuttings for the spring.

Cinerarias.—These are making rapid growth, and should be spaced out in the houses or pits as they require it. If it is desired to make really large specimen plants, a few of the strongest may be potted on again; but 9-inch pots are large enough for any purpose.

The Kitchen Garden.

Preparing the Ground.—After this date there will be no further planting to do, and as the various plots of ground are cleared they may be prepared for digging or trenching, the latter for preference. The rubbish-yard, where there has been a fire off and on all the season, will no doubt yield a good supply of wood-ashes and burnt earth, and if this is wheeled on while the weather is dry, trenching may be commenced as soon as the men are freed from other work.

Old Hot-Bed Manure may also be wheeled on to the ground, or may be stored under an old shed, where it may be turned and mixed with soil during bad weather, when it will be ready for the making up of frames for early crops or for the hundred-and-one purposes for which a good, rich compost is so necessary.

Fruits Under Glass.

Peach-Houses and Vineries.—In many establishments these will be filled with such plants as Chrysanthemums, and, providing proper care is taken, much harm may not result; but at all times a close, moist atmosphere must be avoided, also undue heating of the hot-water pipes must be guarded against. A small amount of heat in the pipes will be beneficial rather than detrimental, providing a full measure of air is admitted at the sides as well as at the tops of the houses. A temperature high enough to raise the sap in the Vines or Peach trees before the proper time is what must be guarded against, or the growth in the early stages next season will not be all that is desired.

Tomatoes that are setting their fruit must be carefully gone over each day with a camel-hair brush or rabbit's tail. At this season over-watering must be strictly avoided, or sappy growth will result. The temperature of the house also must be kept fairly even; 55° to 60° at night, with a crack of air on, should be about right, allowing a moderate rise during the day when the sun is shining, giving as much air as is consistent with the existing weather conditions.

THOMAS STEVENSON.
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Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Lifting Gladioli.—Gladioli flowered earlier than usual this season and are now past. Cut away all flower-stems, lift the plants carefully, and store them in boxes in a shed, covering the bulbs with sand or some light soil till the stems die down by a natural process.

Lifting Montbretias.—Equally successful cultivators differ in their methods with these fine autumn flowers. Some lift them and run them out close in nursery lines in a sheltered spot, working in a little light soil among the bulbs as the work proceeds; while others box them up in propagating-boxes among flaky soil and winter them in a shed or a cold frame. The following is my method: I pot them up into 6-inch pots in light, flaky soil, about five bulbs to a pot, and winter them in a cold frame; they are hardened off in early spring after growth commences, and are planted about the middle of April. This means a little extra trouble, but the results amply justify the means.

Lifting Tender Subjects.—In addition to those indicated, all tender or half-hardy subjects should either be lifted or protected where they are. Such things as Heliotropes and Salvias, if sufficient stock has not been propagated successfully, should have a portion of the plants cut over and potted up to furnish cuttings for spring propagation.

The Rose Garden.

Hoeing.—Run the Dutch hoe through the beds and borders to rid them of any weeds and to keep the soil aerated. Beds or borders which have had a groundwork of Violas should now have these removed, and the soil be rather deeply stirred with the hoe.

Late Blooms.—Free-flowering varieties, such as Caroline Testout, often furnish a good deal of bloom right up to November. Any decaying blooms coming in contact with those unopened should be promptly removed, or the latter will be damaged.

Gruss an Teplitz.—This is the time when this fine autumn Rose shows its superiority.

The Shrubbery.

Planting Evergreens.—This work should be done as soon as possible, so that the plants may get a hold before winter. If drying winds should occur, newly-planted subjects will be benefited by being sprayed over during the early afternoon. The less hardy subjects should receive a mulching; this will help to maintain more equable conditions at the root, both as regards moisture and temperature, and it is a necessity where keen frosts occurs.

Propagating Evergreens.—This is a good time to propagate evergreen shrubs, and a suitable place in which to put the cuttings is a cold frame behind a wall, in which a layer of sandy soil has been placed and made firm. Finish with a thin layer of sand.

Plants Under Glass.

Chrysanthemums.—If green fly appears, vaporise at once. Stop feeding when the blooms are half opened. Where exhibiting is contemplated, any too precocious blooms should be shaded with tissue-paper during bright sunshine.

Cinerarias.—Those intended for a spring display will now be ready for the final shift. The size of pot will have been determined at previous pottings. Cinerarias prefer a rather light, rich soil. A cool house, near the glass, will be the best position for them now. If the leaf-miner appears, spray with Quassia Chips Extract, which makes the leaf distasteful to the miner.

Sponging.—This is an important operation among foliage plants, as it not only improves their appearance, but rids the foliage of dust and dirt, thereby enabling it the better to perform its functions as the respiratory organs of the plant. Plants having this attention now will look fresh and bright during the dull days of winter.

Fruits Under Glass.

Late Peaches.—Trees that have not yet ripened their wood should have the benefit of a little fire-heat with a good deal of ventilation day and night, the object being not to excite growth, but simply to ripen the wood. Maintain dry atmospheric conditions.

Pruning Vines.—Whenever the Vines become defoliated, they should be pruned without delay. As already advised, a sharp knife is preferable to the secateurs for this work. One or two eyes are sufficient to leave, therefore avoid leaving long snags.

Painting.—Any of the early houses requiring the woodwork painted should have that attention as soon as pruning has been finished. Later on it is more difficult to get the woodwork quite dry, a condition essential to the work being efficiently done.

The Hardy Fruit Garden.

Propagating Gooseberries.—These and Currants may now be propagated. Select fairly vigorous but well-ripened shoots, and take them off with a heel, cut away a few inches of the immature wood at the point, rub out a few of the lower buds, and trim the base of the cutting with a sharp knife. The cuttings should then be inserted in sandy soil, made firm, on the open border, and receive a good watering to ensure the exclusion of air, a condition which will accelerate the process of rooting.

Planting Loganberries.—Where a planting of these is to take place, the ground should be manured and trenched, and a trellis erected on which to train the plants. I recommend a double trellis about a foot wide, the fruiting canes being trained up one side and the succession canes up the other, these being transposed annually, of course. Recently, however, I heard of a double trellis, V-shaped, the fruiting canes being trained up each side, the succession canes growing up the centre.

The Vegetable Garden.

Storing Root Crops.—Carrots and Beet should now be stored without much further delay, as described in THE GARDEN, September 27, page 489.

Digging and Trenching. — This work should be carried out as opportunity offers. Autumn manuring is preferable to spring manuring, and the character and amount must depend upon the crop for which it is intended. Avoid rank manure where tap-rooted crops are to be grown. Bastard-trenching, by which the top spit is left in position, is preferable to regular trenching. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Treatment of Hardy Ferns.—Where hardy Ferns are grown, one often finds the fronds cut off as they get brown, the idea being to make them tidy. This is a great mistake as far as the plants are concerned, as they act as a natural protection to the crowns during the winter. In addition, there is a certain amount of beauty in fronds that have lost their bright green tints, as may be seen in our woods in winter and early spring.

Edging for Planting Under Trees.—Few plants are more suitable as an edging under trees than the Ivy, and even in the open it is excellent for an edging for the shrubbery or similar positions. It gives little trouble after it is planted, apart from being cut once or twice during spring and early summer. It should be planted now, and if it has long trails, so much the better. These should be pegged down to keep them in their place.

Dwarf Scillas for Planting in the Grass.—The value of planting bulbs in the grass is being realised more and more every year, and among the early-flowering ones few are more charming than the dwarf Squills, Scilla bifolia and S sibirica. Either by themselves or planted among Snowdrops, they give a very pleasing effect. They are not particular as to position, whether in full sun or partial shade; but if planted in the last named, they will be found to last much longer in flower. Bulbs can be purchased quite cheaply, and should be planted now without delay.

The Thornless Rose.—A few autumn blooms of the Thornless Rose, Zephyrine Drouhin, remind us that this charming variety is not grown nearly so much as it ought to be. Considering that it was raised so long ago as 1873, it is difficult to understand why it is not found in more gardens. The flowers are bright, glowing carmine pink in colour and deliciously fragrant, inheriting this latter desirable feature from the Bourbon Roses, of which it is a hybrid. It is very vigorous, and consequently makes an excellent pillar Rose, or it may be used as a low garden hedge, where light pruning only will be required. The stems are thornless; hence its popular name.

A Remarkable Graft Hybrid.—Commenting upon the peculiarities of the graft hybrid Cratægo-mespilus Dardari, the current issue of the *Kew Bulletin* says: "This graft hybrid shows a phenomenon, unique so far as we are aware, of one kind of tree (not as yet, however, one individual) producing four types of growth, two of which are distinct species and two of a hybrid or intermediate nature, viz.: (1) Cratægus monogyna and (2) Mespilus germanica, the parent species; (3) Cratægo-mespilus D'Asnieresii, hybrid approaching No. 1; (4) Cratægo-mespilus Dardari, hybrid approaching No. 2. Laburnum Adami has not been known to produce more than one hybrid type of flower besides those of its two parent species (Laburnum vulgare and Cytisus purpureus), three in all."

National Sweet Pea Society.—The annual general meeting of the National Sweet Pea Society will be held at the Hotel Windsor, Victoria Street, Westminster, London, S.W., on Monday next, October 20th, commencing at 2.30 p.m. A conference will be held at the Hotel Windsor at 7 p.m. on the same day, when Mr. J. S. Brunton will give a lecture, entitled "The Sweet Pea Industry."

Mint for Winter Use.—This useful garden herb is often in demand during the winter, and although a good supply of dried Mint may be at hand, green leaves are always preferred. As forcing is a very easy matter, there is no reason why fresh Mint should not be obtained. Insert a quantity of roots in a box at the present time and put them in a warm place, keeping them watered. A succession may be kept up by the introduction at intervals of an additional supply of roots.

A Beautiful Water Lily.—Several plants of the beautiful Australian Water Lily, Nymphæa gigantea, have been very attractive in the Victoria Regia House at Kew for several months, and are still (mid-October) bearing numerous fine flowers. The plant may be described as a glorified N. stellata, both leaves and flowers being finer than in that species. The flowers, which range from 6 inches to 8 inches across, are produced on stout stalks 12 inches or 18 inches above the water, and are made up of numerous shapely, bright blue petals, which enclose a central mass of rich golden stamens.

A Beautiful Late-Flowering Torch Lily.—Most of the Torch Lilies are at their best from July to September, but there is one, Kniphofia aloides maxima, which makes a delightful show in October. Varieties such as this, which help to prolong the flowering season and brighten up the borders in late autumn with the Michaelmas Daisy, are worth encouraging. Growing 5 feet to 6 feet in height, the stout stems are carrying quantities of small, tubular flowers. These, when open, have a yellow effect; but by far the most telling colour is the coral red of the flower-buds, of which in early October there are a great number crowning the spikes.

Apple Blenheim Orange Fruiting on Young Trees.—This excellent Apple is often passed over at planting-time, as it is reputed to be very slow in coming into bearing. Instances have been cited where trees have not borne fruit until attaining the age of twenty years. While this may be true of standard trees grown upon Crab stock, it cannot apply to bush trees grown upon Paradise stock and annually transplanted. Some exceptionally fine examples of the latter were shown at the last meeting of the Royal Horticultural Society by Messrs. James Veitch and Sons. The trees in question, lifted from the open, were less than 4 feet in height, and carried an average of twelve handsome fruits per tree, while the age of the trees was only four years!

CORRESPONDENCE.

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

Rose Augustine Guinoisseau.—I had the same experience last year that Mr. Cobbold has had this (see page 482). One of the Augustine Guinoisseau bushes threw a growth bearing two typical La France Roses. I have been looking out for the same irregularity this year, but it has not occurred. The wood was week and was pruned away this spring, and I regret now I did not bud some stocks from it to see what would come.—W. P. Panckridge, *Petersfield.*

Androsace lanuginosa for the Rock Garden.—This is one among the many beautiful varieties of Androsace that should be largely grown for the rock garden, especially where the more tender or difficult species fail to grow. It has been in bloom since May and is still flowering, and will continue to do so till the cold weather sets in, when it requires a little shelter in the winter. Before planting this the ground (stiff clay) was taken out 18 inches deep and filled in with suitable compost, as given by Mr. Clarence Elliott for the moraine garden. Not only this species, but several others have been quite a success, especially through the past dry summer, when otherwise they would have been all scorched up.—A. B. Wadds, *Englefield Gardens, Reading.*

Yellow Banksian Rose.—If "C. T.," page 482, will remove his plant of Yellow Banksian Rose to a south wall and give it generous treatment, he will be rewarded annually with a full crop of its beautiful yellow blooms. A fence does not provide the necessary warmth needed to prepare the current season's growth, with the flower crop to follow the next year. Where plants are growing in the position I describe, I have never known them to fail to flower abundantly. Covering a large portion of a wall 60 feet high on a dwelling-house outside of Cromer in Norfolk is a plant of this Rose with a stem 5 inches in diameter, which must have been planted quite early; the variety was introduced by Damper in 1823. Even this plant never fails to give a crop of flowers.—E. M.

The War on Wasps.—I was very interested in the war on wasps mentioned in your issue of October 4. I thought you might be interested to know what I have done in destroying these pests. In 1910 our kitchen garden wall was repaired and 300 queen wasps were killed in the month of November. In 1911 I destroyed 245 nests, in 1912 50 nests, and this season I have taken 267 nests. I have never seen so many wasps as we have had here this year. I have killed 51 queen wasps and one hornet this last month that were seeking their home for the winter in our stokehole. I have destroyed the nests with cyanide of potassium in the dry powder, and if trodden in the next morning I have found it most satisfactory.—W. W. Richardson, *Marks Hall Gardens, Coggeshall, Essex.*

Fungus Name Wanted.—Will any mycologist kindly tell me the name and anything that is known of the properties of a large fungus that appears nearly every year at this season in and near the north side of a hedgebank of peaty, sandy soil under Scotch Firs? In appearance it is exactly like a large bath sponge, only slightly lighter and livelier in colour. One mass is nearly a foot wide and 6 inches to 7 inches deep; another is smaller, but perhaps not full grown. The texture is tender and easily breaks up. The appearance suggests some affinity to Morel, but I can find no mention of it either under Morel or elsewhere in the only books I have on fungi, namely, Cooke's "British Fungi" and Badham's "Esculent Fungi of England."—G. Jekyll.

Abnormal Growth in Plants.—I thought it might interest the readers of The Garden were I to draw attention to two cases of what I consider abnormal growth in the gardens here. The first is that of two Hollyhocks among a batch of seedlings. The rest of the batch, although fairly tall, are nothing out of the ordinary, but the respective heights of the two in question are 12 feet and 11 feet 11 inches. They both have double flowers of the same shade, a deep rose pink. The second case is that of a plant of Cobæa scandens which was planted in an unheated verandah last April. Since that date till early October one of the leading shoots has made 39 feet of growth, and three other shoots have made over thirty-six feet of growth. Cobæa scandens is well known as a rampant grower, but for a plant out of a 5-inch pot the growth seems to me to be phenomenal.—Charles Comfort, *Broomfield Gardens, Davidson's Mains, Midlothian.*

A VIEW IN A READER'S GARDEN AT DUNEDIN, NEW ZEALAND. IT WAS HERE THAT THE LATE CAPTAIN SCOTT STAYED BEFORE STARTING ON HIS LAST VOYAGE TO THE SOUTH POLE.

An Interesting New Zealand Garden.—Seeing the results of the Rock Garden Competition in The Garden for June 14, I think you may care to reproduce some of the photographs which I am sending you. These were taken by my father (Mr. Kinsey) quite recently. As the *New Zealand Graphic* asked permission to reproduce some, I think the letterpress they give describes the gardens. My father and I have always been keen amateur gardeners. During the last thirteen years my own garden in Dunedin has become full of interest. A clump of Ranunculus Lyallii has bloomed and flourished well since I planted it several years ago.—May Moore. [The letterpress kindly sent us by our correspondent describes in detail the gardens of Mr. Kinsey, a view in which is reproduced herewith. The outlook is superb, stretching from the cliffs near the entrance to Lyttleton Harbour, to the distant Kaikouras and Mount Hutt. The name of this week-end residence of Mr. Kinsey is Te Hau O Te Atua. Here the late Captain Scott stayed with Lady Scott before proceeding on his last and fateful journey to the South Pole.—Ed.]

Aster Beauty of Colwall.—It might be said with but little fear of contradiction that not only is this the finest Michaelmas Daisy extant, but the greatest addition to autumn-flowering herbaceous plants that has yet seen the light of day. It is also an acquisition. Indeed, no plant of my acquaintance is possessed of the illuminating power of this Aster when seen in well-cultivated groups. Good cultivation, however, is required, and will be repaid a thousandfold when the handsome pyramids of rich violet blue flowers stand out in unrivalled splendour in late September days. This year, by reason of the exceptional spell of sunshine that has been experienced, the great groups of it have assumed an unusual brilliance and those who plant for effect—those who can garden with hundreds of such plants—can surely have no finer subject than this. It should, however, be cultivated and given room for development if all the sumptuous beauty of which it is capable is to be realised in its fullest measure.—E. H. Jenkins.

Virgilia lutea.—This fabaceous dwarf tree is at present at its best, the foliage having assumed its autumnal chrome yellow colouring. It has never flowered here, but the effect it produces in autumn compensates for all other failings.—R. P. B., *Tyninghame, Prestonkirk, N.B*

The Hardiness of Nicotiana affinis.—The fragrant and beautiful Nicotiana affinis is hardy in some gardens I have visited, but it was quite an unexpected thing for me to see a few old plants in Tolleross Park, Glasgow, the other day. They were growing at the end of one of the greenhouses in the enclosed ground at the back, and had been there for several years unsheltered. Mr. Wilson, who has charge of Tolleross Park, under Mr. James Whitton, informed me that the plants had proved quite hardy. N. affinis is not usually hardy in gardens so far North as Glasgow and in a climate such as is to be met with there.—S. Arnott.

Pruning Rose Dorothy Perkins.—The orthodox method of pruning this and other climbing Roses is to remove the whole of the last season's wood that gave flower this year, to make space for the current year's growth, which is intended to give the next year's flower crop. While not saying one word against this method, I do not think it is necessary to cut away the whole of last year's shoots; if the strongest of those are allowed to remain, they will give quantities of flower next year and will aid in making a much thicker screen where such is necessary. I have a hedge of this Rose, 10 feet high, which has scarcely been pruned at all during the last six years, and how it blossoms yearly in such profusion surprises many people.—S. H.

The Nerines.—I was greatly interested in the article on these lovely bulbous plants which appeared in the issue for September 13, because it recalled to my memory a very fine batch that used to be in Blenheim Gardens, Woodstock. They may still be grown there; but my reference is to ten years ago, at which time they were in splendid condition, flowering most freely. To the best of my recollection they were in 7-inch to 9-inch pots, and full of bulbs, even to overcrowding, which state evidently betokened their having been undisturbed for many years. As they passed out of flower they used to be stood on shelves in a dry house, where the sun could play upon them continuously until they began to throw up spikes again. The variety was known as Fothergilli major. Incidentally, the Nerine does not seem to be largely grown, for it is seldom one can see it when looking round a garden, big or small.—C. Turner, *Highgate.*

The Failure of Pears.—In the present extreme shortage of Pears it may be worth while to preserve a record of the doings of various sorts, in order to establish, if possible, some general principle. My garden, I should mention, is well protected by downs on the north and east, and largely by the church on the west. It is somewhat exposed to south-west winds straight off the sea. I have hardly any wall. My record is: Beurré Lebrun and Prince Imperial, fair crop, less than usual; Doyenné du Comice, two on wall, twelve each (one of these, a noble tree figured in The Garden some years ago, has had 188); three in open garden, none; Marguerite Marillat, ten; Magnate, four; Alexandrine Douillard, two; Le Lectier and Durondeau (both on wall), one each; about twenty-five others, all of the best sorts, none. My impression is that in the long spell of bad weather this spring, those which were early enough to have set the bloom before it, and those which were not then out at all, partially escaped, but I cannot altogether fit my list to this theory. Perhaps some other growers will give you their experience.—G. E. Jeans, *Shorwell Vicarage, Isle of Wight.*

A Noble Border Plant.—Phytolacca decandra, perhaps better known as the Red Ink Plant, though easily cultivated and quite hardy, is rarely met with in our Irish gardens. When planted in a favourable position, it attains a height of from 8 feet to 10 feet. A plant established in the herbaceous borders here annually makes a fine display in the autumn, when the long, summer flower-spikes are loaded with dark purple berries. When established, P. decandra needs very little attention unless planted in an exposed position, when a stake will help it to withstand the autumn winds. Propagation is best effected by seed, as the large, fleshy, poisonous roots do not take kindly to dividing. Usually a few seedlings may be picked up in spring from the borders in the vicinity of the parent plant, and if carefully transplanted they will make nice plants the first season. If better known, this plant would undoubtedly find a corner in every garden.—T. Leggett, *Woodlawn, County Galway.*

Verbena venosa: What is Its Colour?—A large bed planted with pillar-trained, rose-coloured, Stock-flowered Larkspurs, with the interspaces filled with Verbena venosa and a broad edging of dwarf Ageratum, has attracted some attention this season, and in one instance the colour of the Verbena gave rise to not a little discussion, violet, purple and heliotrope being by different persons assumed to be the correct colour description. The colour is, of course, one by itself, and on turning up a few books I find it noted as rosy violet, and purple. I myself have always looked upon it as giving on the whole a violet effect, and for certain purposes is an indispensable colour in the flower garden. I wonder what some of your readers who are acquainted with colours would describe it—not so much the colour of an individual flower-head as the effect in a grouped mass. This species is not nearly so much grown as it deserves to be, and is not often seen in gardens at the present time, though forty years ago it was used in the bedding designs of that period, with much effect. It is a South American plant, not everywhere hardy, but in the milder districts it is distinctly hardy herbaceous, though the best results are obtained by annual propagation. This may be done in three ways. One is to sow seeds in heat very early in the year, taking the precaution to steep the seeds in water for a couple of days before sowing and never allowing them to feel the effects of dryness. At the best the seeds germinate rather erratically. The underground stems provide another method of increase. These are cut into short pieces, and, being covered with light soil, produce growths from each eye, and after roots are formed they are transplanted into ordinary cutting-boxes or pots. Another way is to strike the shoots which are forced into growth from the stems, and by this means a larger increase is possible. To those who are unacquainted with the plant it may be explained that it grows from 6 inches to 2 feet in height, the latter in soil well cultivated.—R. P. Brotherston.

FORTHCOMING EVENTS.

October 21.—Royal Horticultural Society's Exhibition.

October 22.—Hereford Fruit and Chrysanthemum Show (two days).

THE GREENHOUSE.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

During the early part of October all the plants now grown for the production of exhibition blooms will be placed under glass. As amateur cultivators generally have more garden space for the plants during the summer-time than greenhouse room for them in the autumn, a close selection should be made so as to make sure that the best plants with the most promising buds have the most favourable positions. Overcrowding, to a considerable extent, may thus be avoided. It is not a difficult matter to decide which plants will prove the least satisfactory, and, of course, their entire exclusion would make a great difference to those bearing fine buds. Although the lower leaves have really done their part in the building up of the plants, it is better to try to retain them as long as possible now by affording the plants ample light and air.

Dressing the Blooms.—Twenty years ago the dressing of the blooms was a very important matter, when incurved varieties were largely grown. Many varieties of the incurved section have Japanese blood in them, and some dressing is necessary to avoid coarseness. The dressing that I recommend now takes the form of the simple removal of short, twisted or otherwise malformed petals, which, if left in, would interfere with the proper development of the good, sound petals. The timely removal of bad petals is more effective than leaving all such to be taken out at one time—when the bloom is really fully developed.

Night Work.—If all faded leaves are picked off the plants when the latter are put under glass, the natural harbour for earwigs, and many of these pests, too, will be got rid of; but there will, no doubt, be plenty more to destroy. It is not difficult to catch them on undeveloped buds about eight o'clock in the evening by the aid of a good light suddenly thrown on them, but much more so when the blooms are half open, and later still. Caterpillars that are usually found on the leaves of Zonal Pelargoniums at this season also do much damage to Chrysanthemums blooms, eating away half a bud in one night. If any excrescence be found on the leaves, look carefully under them in the daylight, and, failing to find the caterpillar, examine the opening buds at night. Mildew may also spread on the leaves. Early in the morning, while the leaves are rather moist, throw some flowers of sulphur on them and underneath. The powder will adhere and soon check the spread of mildew. I much prefer to use dry sulphur in this way than a solution of any kind after the plants are housed. It is advisable to group the plants, forming three groups, after they are housed, namely, the earliest or most forward, the medium early, and the latest. I refer, of course, to the state of the opening flowers, and not to the late, medium, and early varieties. So placed, it will be found very easy to attend to the daily requirements of the plants. Lightly shade the more forward blooms, especially those of the chestnut and bronze varieties. Yellow and white flowered varieties must be kept away from the top ventilators if there is a direct draught on them, as the purity of the petals will be marred by damp spots. Thin scrim or tiffany suspended between the blooms and the ventilators will keep away much moisture. Gradually lessen the feeding of all plants bearing half-open blooms, and give clear water only when three parts developed. Avon.

THE CAMPANULAS OR BELLFLOWERS.

(*Continued from page* 497.)

C. petræa.—A plant which seems more prized for its colour than for anything else, but in reality it is a poor subject. It is upwards of a foot high, with large heads of dull yellow in July, and is a doubtful perennial; in fact, a biennial with almost everyone. Sun and a dry place. Seeds.

C. portenschlagiana.—A valuable plant for sun or shade, rockery, wall, or large moraine. It forms a trailing mass of pretty leaves and handsome, purplish blue flowers in June, July, and even later. The best form is C. p. bavarica, or major. Excellent for any place in the garden.

C. pseudo-Raineri.—This is now very scarce, and was for long sold as one of the forms of C. G. F. Wilson, but is a much finer plant than either that hybrid or C. Raineri itself. It has large, purplish, open bells in June on a low, rather trailing plant. An open place in light soil suits it best.

C. Profusion.—There are two forms of this lovely hybrid Campanula, which comes very near C. haylodgensis. One has more yellow leaves and one lighter blue flowers than the other. Excellent for a dry rockery, wall, or moraine. Division or cuttings. June and July.

C. punctata.—A handsome plant, with long, drooping, whitish bells, spotted like those of a Foxglove, in June. Not very long-lived, but easily raised from seeds, and looking best on a rockery. It is 9 inches or a foot high. Partial shade.

C. pulla.—A lovely gem, which often dies out in gardens, either from winter wet or from slugs. It hates lime, and loves a peaty, rather moist place. Charming drooping bells of deepest blue on 6-inch or 9-inch stems in June and July. Seeds or division. The moraine suits it well.

C. pulloides.—A lovely hybrid, found by some easier to grow than C. pulla, which is one of its parents. Good for the same positions as C. pulla, and very handsome with its large, drooping cups of exquisite blue in June and July. Division.

C. pumila and C. pusilla.—For garden purposes these are practically the same as C. cæspitosa.

C. raddeana.—A handsome, graceful, easily-grown comparative novelty. In gritty soil in sun it is about a foot high, and has fine deep green foliage and dark blue flowers borne in plenty in July. The flat parts of the rockery or front of the border. Sun or shade. Seeds or division, increasing rapidly at the roots.

C. Raineri.—A delightful plant, beloved of slugs and difficult to keep. It loves the moraine or a sunny chink, where it gives its large, blue, erect, open flowers on 2-inch or 3-inch stems. Division or seeds. June.

C. rhomboidalis.—A lovely little Bellflower of the rotundifolia character, with prettily-formed, deep blue flowers about ten inches or twelve inches high. The level rockery or front of the border. Seeds or division. June or July.

C. rotundifolia.—Under this, our native Harebell, we may group a number of forms. C. linifolia and C. alaskana, though said by some to be distinct, may well be included. C. Hostii is one of the best forms. C. r. alpina, deep blue, is very fine. There are various shades of blue and of white among the varieties. The single form of C. r. soldanellæflora is not worth growing, but the double one is interesting. Any soil or position will suit these. Seeds or division. C. linifolia valdensis is very good. All the forms will grow almost anywhere, and flower from June.

C. rupestris.—A beautiful little plant with large, pale blue flowers and rather silvery-looking leaves. Moraine, or dry, sunny rockwork, and resembling C. fragilis in its general aspect. Division or seeds. July.

C. sarmatica.—A good rock and border plant, about a foot high, after the fashion of C. barbata, with pleasing light blue flowers in July. Any soil, and excellent in every way. S. Arnott.

(*To be continued.*)

CAMPANULA ROTUNDIFOLIA ALPINA, A CHARMING BELLFLOWER FOR THE ROCK GARDEN.

THE ROCK AND WATER GARDEN.

AUTUMN IN THE ROCK GARDEN.

Most owners of rock gardens are apt to think that after June, or, at latest, July, the charm of that part of their garden is gone. To a certain extent this is true. Those who know Switzerland will realise that the spring and early summer are certainly the times when alpine plants are at their best. But this all makes the problem of how to avoid a bare autumn rockery all the more interesting. Just now quite a respectable number of plants may be had in bloom by those who arrange their plans well. It is considered rather bad management if the flower-borders are quite bare at one period of the season, unless, of course, they are planned for a special month. Why should not this apply to the rock garden? I will enumerate some of the plants that will flower just now. It is a great help if plants of small growth and quite suitable to such a position are grown, even if they are not alpines, and use is even made of annuals to fill up gaps. Of small carpeting plants, Frankenia, with pretty grey foliage and a small pink flower, and Ionopsidium acaule, an annual with pinkish mauve flowers, are both good. The latter is particularly suitable for an edging. Linaria alpina is a graceful, feathery little plant. Of the Heaths, Erica Searlii and E. vagans alba are both in flower just now, and make a very satisfactory mass of dark green, studded with white. Vittadenia triloba is a small and most useful plant, not often seen. It has a Daisy-like, pinkish white flower, and is covered with blossom most of the year. It deserves the very highest recommendation. Both Corydalis dicentra and C. lutea are out. Though neither is a showy plant, their foliage makes a pretty soft-looking mass, and their flowers are not to be despised. The latter grows well in a wall. Stray flowers may be found on many plants which have really done their flowering season. Hypericum reptans and H. Coris will make a welcome patch of yellow. Potentilla Miss Willmott flowered early in the summer, and is now a mass of silvery pink blossoms. In a damp spot a red Mimulus makes a handsome patch of colour. It is worth noting that though it does best by the side of water, it will also grow in quite a dry situation. Tunica Saxifraga and Androsace coronopifolia (rather similar in appearance) are both out.

To sum up for the benefit of those who are on the look-out for autumn-flowering plants, the following may give useful ideas: Gentiana asclepiadea, Commelina, Mimulus, Corydalis dicentra and C. lutea, Frankinia, Iberis gibraltarica, Œnothera macrocarpa, Thrift, Linaria alpina, Tunica Saxifraga, Androsace coronopifolia, Ericas, Hypericum reptans and H. Coris, and Veronica. For foliage, Sedums of sorts. For a few stray flowers, Geranium lancastriense, Campanula turbinata and C. t. pallida, and Violas. M. B. Radcliffe Cooke.

ROCK GARDEN PLANTS IN OCTOBER.

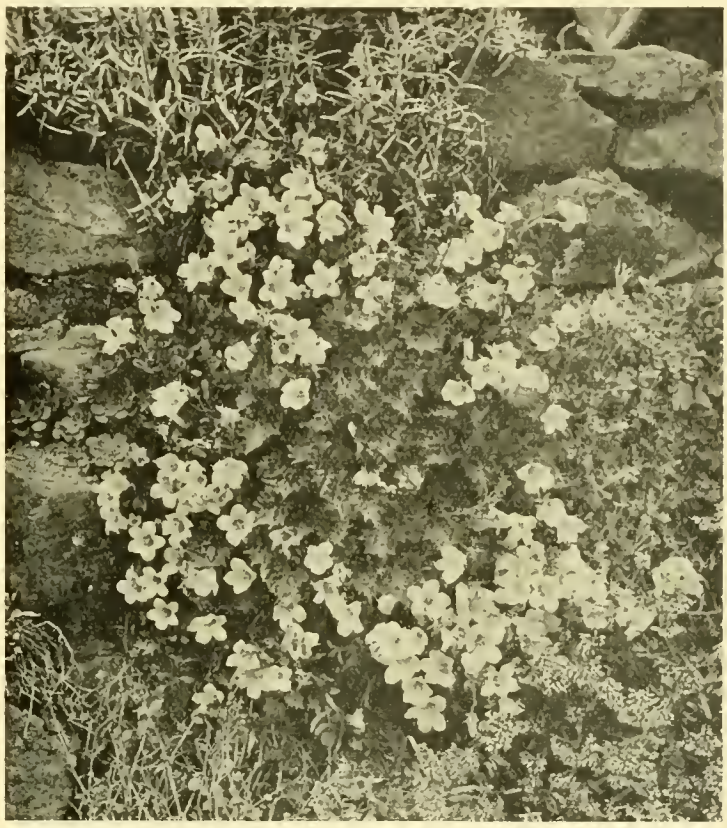
Those who so often bemoan the fact that our rock gardens are devoid of interest during the autumn should give more attention to the plants which flower at that season. On more than one occasion we have printed lists of suitable kinds, and readers have kindly supplied the names of others that can be relied upon to produce flowers when the days are waning. This year a great many alpine plants have been flowering late, and on the 2nd inst. we received from Mr. Maurice Prichard, West Moors, Dorset, a very fine collection. In writing, Mr. Prichard says: "I have pleasure in posting you a box of cut alpines flowering on October 1 in the open. The variety is so great for this time of the year that I was tempted to send a few samples for your table." As the subject is one of more than usual interest, we publish herewith the names of all the kinds sent: Achillea tomentosa, yellow; A. Kellereri, white; A. Aizoon, white; Antirrhinums glutinosum Copper King and Crimson King; A. gibraltaricum, rose purple; Aster Mrs. Berkeley (white Michaelmas Daisy); A. hybridus roseum, pale rose; A. sericeus, mauve; Asteriscus maritima, yellow; Bœnninghausenia albiflora, white, with Rue-like foliage; Calandrinia umbellata, deep purple; Campanula pusilla, deep blue; C. rotundifolia alba; Calceolaria alba; Cheiranthus Marshallii, pale orange; Chænostoma lespida, pale blush; Coreopsis rosea, pale rose; Coronilla albo-roseum, rose and white; Convolvulus mauritanicus atrocæruleus, blue; Dianthus deltoides Brilliant, brilliant rose pink; D. Prichardii Brilliant, rosy pink; Erodium hybridum; Felicia abyssinica, pale mauve; Lysimachia Henryii, yellow; Heeria elegans, rose purple; Hypericum polyphyllum, H. ægypticum, H. olympicum, H. orientale and H. empetrifolium, all yellow; Linaria anticaria, pale yellow, with bronze lip; L. alpina, mauve blue, with orange scarlet lip; L. multipunctata, orange yellow; L. rosea concolor, pale rose; L. repens alba, white; Meconopsis cambrica plena, yellow; M. c. aurantiaca plena, orange scarlet; Moringia muscosa, white, very tufted; Myosotis azoricus, violet; Œnothera riparia, dull orange scarlet; Œ. mexicana rosea, rose; Œ. taraxacifolia, canary yellow; Nepeta Mussinii, deep lavender; Origanum dictamnus, dull rose; Pentstemon campanulatus, dull crimson; Phyteuma lobelioides gracilis, deep blue, Campanula-like flowers; Primula Munroi, white; P. capitata, deep blue; P. bulleyana, orange; P. Poissonii, rose purple; Polygonum vaccinifolium, rose pink; P. capitatum, rose pink; Saxifraga cortusæfolia, white; Scutellaria indica japonica, lavender blue; S. hastata, blue; Silene laciniata, scarlet; Solidago brachyphylla, yellow; Stachys coccinea, dull orange scarlet; S. corsica, pale blush; Verbena venosa, purple; V. Teneri Mahonettii, purple, edged white; V. radicans, deep mauve; Veronica Bidwellii (Miss Willmott's hybrid), pale blue; Viola Œtholica; V. Jackanapes, lower petals yellow, upper velvety brown; V. olympica, deep sky blue; Vittadenia triloba, white, Daisy-like flowers; and Wahlenbergia vincæflora, periwinkle blue.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

Some of the Newer Roses.

Continuing the general review, I come now to the most "important" class of all—I mean the garden Roses. What heresy this must sound to some! What would the Rev. Foster-Melliar have said to such a statement? And yet it is true. The most important by reason of its numbers, variety and general interest. Why, for every exhibition Rose grown in the country there are a hundred garden Roses, and yet I suppose that without the exhibition Rose and all that it means, the garden Rose as we know it to-day would have been *non est*, and so may they long continue. The one is a complement of the other, and there is plenty of room for both, not only in our gardens, but in our hearts. I remember a certain morning this last June I found myself confronted with the old problem, "Which is the most beautiful Rose?" brought back for reconsideration and a fresh judgment by a particularly beautiful flower of Mrs. Foley Hobbs. It had been coming slowly to perfection for a week, and here it was "at its best," as near perfect as one can expect, a four-point bloom meet to compete for the medal for the best bloom at any show. There can be nothing much more beautiful in the Rose world! And then I passed on down the garden and stood before a bush of Irish Beauty, with a spray of its bloom just opening, the centre or crown bud fully out; of the others some were thinking about it, while some were still tight buds, hardly showing colour. Naturally, it was the centre flower that attracted my attention, and it was larger than usual. The first flowers are nearly always the biggest and this one was at the stage of its highest possible beauty, and I, with all the magnificence of the other Rose still before me, found myself exclaiming, "No; this is the most beautiful, after all! The simple white flower—only a single!"



CAMPANULA PORTENSCHLAGIANA BAVARICA GROWING IN A DRY WALL.

I think possibly the best way to deal with the garden Roses will be to divide them into colours, dealing with them as bedding Roses that have been particularly good this year. One starts with pink (all shades): Miss Cynthia Forde, Mme. Segond Weber, Mme. Léon Pain, Bertha Gaulis and Lady Alice Stanley. I think I must confine myself to five of each colour; three plants of each would make a fine bed for anyone who "must" grow mixed Roses. They are, I am afraid, in the majority, and all these five would, as it happens, mix well. Flesh tints: Mrs. Amy Hammond (a delightful Rose this), Pharisäer, Grace Molyneux, La Tosca and Lady Ursula, all good, strong growers that would be called tall in comparison with the set of five pinks. Cream and pale yellow: Mme. Melanie Soupert, Lady Greenall, Melody, Verna Mackay and Mrs. Harold Brocklebank. Melody is probably the least vigorous of these five, but cannot be left out, although the question of habit of growth is of much more importance in the case of mixed beds. Reds: A real good bedding red is still to seek. (I consider, despite its growth, Hugh Dickson is still the most satisfactory, but that is hardly new.) Mrs. Muir McKean, Lieutenant Chaure, Mrs. E. Powell, Leslie Holland and Richmond are all good growers. Yellows: Lady Hillingdon (the best yellow garden Rose), Miss Alice de Rothschild, Duchess of Wellington, Harry Kirk and Mrs. L. Petrie. White (I shall not be able to find five in this colour): Mrs. Herbert Stevens, Molly Sharman Crawford, British Queen and Simplicity. Then that vast host that one cannot label with one colour name—rather whose colours have no name: Queen Mary (a really lovely Rose), Carine, Lady Pirrie, Theresa, Mrs. Herbert Straker, Old Gold, Mrs. F. W. Vanderbilt, Margaret Molyneux, Sunbeam, Florence Edith Coulthwaite, Mme. C. Lutand and Irish Fireflame. And from the bedders one passes to the semi-climbers and climbing varieties. Would there were a few more perpetual-flowering Roses among them! They are coming, no doubt, but very slowly. One welcomed this year Danäe and Moonlight; but they are not climbers, hardly semi-climbers. They have the continuous-flowering habit, for their raiser has shown them consistently throughout the season, and never better than at the autumn show, where I was very glad to see

Moonlight obtained a gold medal; but I must return to my subject. Among the wichuraianas, Diabolo, François Juranville, Dr. Van Fleet, Gerbe Rose and Shower of Gold have been better this year than I ever remember to have before seen them. Of the ramblers or stronger growers: American Pillar, Blush Rambler, Evangeline, Goldfinch (particularly good) and Tausendschön. This latter has made 15-feet to 20-feet shoots with me, and the tints of the young foliage add a charm to the plants. The flowers last a very long time, although it really only flowers once. The semi-climbers or pillar Roses: Nothing very new has been brought to my notice, but Sarah Bernhardt, Johanna Sebus, and Crépuscule have been very fine, and Lady Waterlow and Trier are two indispensables. Of the climbing sports, Souvenir de Pierre Notting has been magnificent, is still full of flower, and far and away the best yellow climber we have. The flowers have lost a lot of the rough outer petals that spoil the dwarf form, and have been the colour of Maréchal Niel. Climbing Richmond has also come to stay, and Climbing White Maman Cochet promises to be very good and useful.

Herbert E. Molyneux.

Southampton.

ROSES OF RECENT INTRODUCTION.

While the Rose season, which is now only too manifestly on the decline, was — chiefly through lack of moisture — not too favourable for what may be termed a profusion of Roses, it was, on the other hand, in Southern Scotland at least, creative of quality in an eminent degree. This was chiefly owing to the abundant sunshine, of which, I believe, we had more in Scotland than even in the southernmost English counties. The varieties that were finest in our Scottish gardens were undoubtedly the Teas and Hybrid Teas. I have never seen Anna Olivier, for example, with such a depth of colour as it had this year. It was quite as rich an apricot in my own garden as its derivative (Lady Roberts) at its finest, and that is saying much. I have for many years regarded the latter beautiful Rose as best adapted for the conservatory; it is not too reliable in our variable climate when grown in the open air. But the loveliest Roses I had this season were, for the most part, of quite recent introduction. I had not, unfortunately, the privilege of seeing British Queen, for this was one of the very few varieties of any reputation that during last winter succumbed to the frost. I presume that I had assigned it too exposed a situation; but it was from the first anything but a vigorous or reliable specimen, and I hope to obtain a stronger representative of this phenomenal Rose from its raiser this year. But, on the other hand, such truly superb Roses as Mrs. Charles Hunter, from far-famed Waltham Cross, surely one of Messrs. William Paul and Sons' very finest creations; the exquisitely-tinted Duchess of Sutherland, a variety from Newtownards well worthy of its name; Alice de Rothschild, a hybrid Maréchal Niel, one of the most beautiful and richly fragrant yellow Roses in cultivation; and such distinguished varieties from Portadown in Ireland as Countess of Gosford, Miss Amy Hammond, Ethel Malcolm, Evelyn Dauntesey (after the style of the incomparable La France), Mrs. Alfred Tate (of quite unique colour, one of whose derivatives is probably Old Gold), the highly distinctive Dorothy Ratcliffe and, above all, Mrs. Herbert Stevens (one of the most perfectly-formed and refinedly-textured pure white Roses that ever were raised), have proved during the past season so memorable for the marvellous beauty of their flowers—invaluable acquisitions. Lady Hillingdon, though exquisite at the nurseries of Messrs. Thomas Smith and Sons in this county, accomplished nothing during the summer in my garden; but towards the end of the season it made a visible effort in the direction of floral production, though its flowers are lamentably lacking in size. Meanwhile I am looking forward to the first appearance here next season of three Hybrid Teas of the greatest fascination, viz., George Dickson, British Queen and King George V.

David R. Williamson.

Manse of Kirkmaiden, by Drummore, Wigtownshire.

THE FLOWER GARDEN.

DAHLIAS FOR GARDEN EFFECT.

In years gone by the Dahlia was looked upon as an almost indispensable autumn flower, but now we often hear the opinion expressed that Dahlias are almost useless for colour effect in the garden. The reason is not far to seek, for the older varieties of the decorative class hold their heads of bloom on stout stems well above the foliage, whereas most of the modern varieties introduced under the name and disguise of improved sorts possess the unpardonable fault of weakened stems, hiding their heads of bloom beneath a dense green mass of growth and foliage. Happily, some of the older varieties good for garden colour-schemes are still to be obtained, while the new Pæony-flowered race bids fair when better known to outrival the old show Dahlia for massing. Readers should be wary of the alleged improved varieties as seen at exhibitions. More often than not these flowers are either displayed in show boxes or with stems stiffened by wires. Such varieties may be utterly useless from a garden point of view, however excellent they may be for exhibition. Now, by thoughtfully choosing the right varieties, it is possible to create truly wonderful autumn colour-schemes with Dahlias. It needs only a glance at the accompanying illustration to make this point clear. Here is seen a bed of the variety Kaiserin Augusta Victoria, in which the flower-heads are borne on stout stems well above the foliage. This bed is situated near the lake at Kew, and from all directions the white flowers show up clearly, and make a bright and telling spot upon an autumn landscape. It is true that many of the flowers are semi-double, and from a florist's point of view they may be lacking in form, but for producing a mass of bloom this variety has few equals. It is unfortunate that there are two varieties bearing the name Kaiserin Augusta Victoria, and the one here referred to is not the Pæony-flowered variety, but a pure white decorative Dahlia that grows from 2 feet to 3 feet in height. Another decorative variety, and one which is becoming very popular for colour effect, is Délice, a sturdy grower with delightfully fresh pink flowers. It has this year been seen in many gardens, and, having rendered a good account of itself, it has doubtless come to stay. Loveliness is another charming variety. It is now flowering to perfection in a border of autumn flowers at Gunnersbury. It goes without saying that self colours give the most pleasing effect, particularly when massed in great numbers.

THE DECORATIVE DAHLIA KAISERIN AUGUSTA VICTORIA PLANTED FOR EFFECT.

The single and Pompon Dahlias look very dainty in the garden, and are deserving of more attention. The same may be said of the little-known bedding varieties, of which Flora Macdonald (yellow),

Rising Sun (scarlet) and King of the Dwarfs (purple) are among the best. These varieties seldom exceed 2 feet in height, and are very useful in gardens of limited space. Of the Cactus varieties, Amos Perry (scarlet) and Garden Yellow are two of the very best. Nor must we omit Mauve Queen, Conquest (crimson) and the dark form of the old favourite J. H. Jackson.

TREES AND SHRUBS.

A BEAUTIFUL SNOWBERRY.

Under the name of Symphoricarpus mollis and S. occidentalis a large fruiting Snowberry has been fairly frequently exhibited at the fortnightly shows of the Royal Horticultural Society in autumn for three or four years past. On October 11, 1910, as S. mollis, it was given an award of merit, and on Tuesday of last week a first-class certificate. Considerable difference of opinion exists as to the correctness of the nomenclature. It has been conclusively proved to be neither of the species named, but a large-fruited form of the common Snowberry (S. racemosus). Raisers of new and improved varieties of plants can readily understand how this large-fruited form has been obtained—by raising seedlings from the largest fruits through several generations and growing the bushes in rich soil. Both species, S. mollis and S. occidentalis, are now in cultivation at Kew; but neither can in any way compare with the specimen illustrated, this being an infinitely better plant in every way for garden decoration. The name Symphoricarpus racemosus macrocarpa has been suggested for the plant, but no doubt the name S. occidentalis will cling to it for some years in nurseries. Present appearances suggest that neither S. mollis nor S. occidentalis are sufficiently ornamental to warrant their general culture outside botanic gardens. S. racemosus macrocarpa is a free-growing bush up to 6 feet in height, with large, pure snow white berries borne in terminal and axillary clusters at the ends of the shoots, particularly those of vigorous growth. These panicles are so heavily clothed with fruits that their weight causes the shoots to arch over, giving the bushes a very graceful appearance. Shown from the famous collection of trees at Aldenham it has aroused great interest and admiration.

The Snowberries thrive in most soils, and are of great value for shrubbery borders. In addition to increase by seeds, the bushes produce suckers freely, so that division of the clumps is possible every few years, or pieces may be taken off the sides without lifting the whole specimen. A second useful species, popularly known as the Coral Berry (S. orbiculatus), is in cultivation. Of this there is a very pretty variegated form named foliis variegatis. The Symphoricarpuses are natives of North America. A. O.

A BEAUTIFUL SNOWBERRY, SYMPHORICARPUS RACEMOSUS MACROCARPA, ALSO KNOWN AS S. OCCIDENTALIS AND S. MOLLIS.

TWELVE USEFUL SHRUBS FOR WALLS.

The selection of suitable shrubs for covering walls is often a perplexing business to persons who are not intimately acquainted with shrub-life, more particularly when neat-growing plants are required rather than the more free and rampant climbers. With this in view, the following twelve kinds have been selected as a guide to intending planters. Plants of strictly climbing habit have been avoided in most instances, and preference has been given to those which are not generally hardy, or which give better results against a wall than when planted in the open. As a rule, any of the plants mentioned succeed quite well with no further attention than an annual pruning as soon as the flowers are over and occasionally nailing the branches into position.

Plagianthus Lyallii.—This is a New Zealand shrub belonging to the Hibiscus family. It attains a height of quite 12 feet, and may be relied upon to cover a considerable area. It produces clusters of pendulous, white flowers from the leaf-axils in July, and is a general favourite with all who see it. South, west or east aspects are suitable, and warm, loamy soil is required.

Sophora viciifolia, a spiny-branched shrub from China, is quite hardy in the South, but flowers most satisfactorily when planted against a wall in the colder parts of the country. The deciduous, pinnate leaves are composed of tiny, delicate leaflets, and the white, violet-marked, Pea-shaped flowers are borne freely in short racemes from axillary growths.

Tricuspidaria dependens.—This is an interesting and decorative evergreen, which, although hardy in Cornwall, requires the shelter of a wall round London. The small, oval leaves stamp it as distinct from the other species, T. lanceolata or hexapetala (which is sometimes also called Crinodendron hookerianum), while its white, fringed flowers are also very different from those of the other plant. It gives the best results in a sunny position.

Escallonia macrantha.—Although this is perfectly hardy in the southern maritime counties, it requires wall culture in most parts of the country, and is an excellent plant for the purpose. Its dark, evergreen leaves are interesting at all seasons, while its deep rose or light red flowers make it particularly showy in summer. It thrives in a variety of soils and situations.

Myrtus communis.—This, the common Myrtle, is always a popular plant in gardens, but many people neglect it by reason of its liability to injury in winter. Planted against a wall, however, it escapes injury, and the full value of its rich green, fragrant foliage is apparent throughout the year, while its white flowers are an additional attraction towards the end of the summer. After a warm summer a good crop of black fruits may be expected.

Cotoneaster horizontalis is an excellent plant for a corner. Although when growing in the open ground it rarely exceeds 18 inches in height, it grows quite 10 feet high against a wall, and requires no nailing after it has once obtained a start. Its bright scarlet fruits are very attractive, while the leaves colour brilliantly before they fall in the autumn.

Ceanothus veitchianus.—This Californian evergreen is essentially a plant for a wall. Of vigorous growth, it must be planted in a permanent position

when quite small, and if possible from a pot, for it transplants badly. The small, evergreen leaves make it attractive when not in flower, while the blue flowers are borne in such profusion in May as to hide the leaves.

Ceanothus rigidus makes an excellent companion plant for the last named. It is a native of the same country, and is distinguished by its more rigid branches and deeper-coloured blossoms. Like the previous plant, it blossoms with the greatest freedom. Both kinds thrive in well-drained, light, loamy soil, and give the best results when exposed to full sun. They must not be given very rich soil, or the flowering will suffer.

Pyracantha angustifolia.—This Chinese plant was originally called Cotoneaster angustifolia, but is now included in Pyracantha. Its long, narrow leaves resemble those of the common Pyracantha in shape, but have a greyish hue. The fruits are orange-coloured, and ripen during the autumn. A sunny position and light, loamy soil are essential to success.

Corokea Cotoneaster, a New Zealand shrub belonging to the Cornus family, though rarely met with in gardens, is a decidedly handsome plant when grown against a south or west wall. Its tiny, dark bronzy green leaves, with a grey reverse, remain in good condition throughout the year, while in June its golden, star-shaped flowers are a great attraction. Light, loamy soil is suitable.

Hydrangea petiolaris is strictly a climbing plant, its branches ascending and clinging to their support by means of aerial roots, as in the case of the Ivy. It is an excellent plant for almost any position where an evergreen is not necessary. The flowers appear in large heads, many fertile flowers being accompanied by a few sterile blooms. The blossoming-time is summer. It is a native of Japan.

Cydonia japonica cardinalis is a very rich coloured form of the common Cydonia, or Pyrus, japonica. Of vigorous habit, it will grow 15 feet or 18 feet high if allowed. By keeping the breast-wood cut back, a spur-like condition of the branches is encouraged, from which the maximum number of flowers may be expected. A sunny position is desirable. D.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Symphoricarpus racemosus macrocarpa.—See illustration and note on page 527.

AWARDS OF MERIT.

Helianthus speciosus (Tithonia).—This was by far the most remarkable novelty exhibited at the last meeting, and as such excited much admiration. Strictly speaking, however, it is not a novelty at all, the plant having been introduced from Mexico so long ago as 1833, and is figured in the *Botanical Magazine*, t. 3295. The flower-heads are about four inches across, the florets coloured a crimson-scarlet on the upper surface and chrome yellow below; peduncles single-headed. Of annual duration only, and probably easily raised from seeds. From Mr. W. Batchelor, Towcester.

Nerine Giantess.—This fine variety is said to have been obtained by crossing N. Bowdenii and N. coruscans, and there are abundant evidences to this end. The tall scapes and large open flowers are very suggestive of the first named, the latter being revealed in the form of the sepals and colour. It is of rose cerise colouring.

THE NEW APPLE GUELPH (MUCH REDUCED), WHICH GAINED THE ROYAL HORTICULTURAL SOCIETY'S FIRST-CLASS CERTIFICATE RECENTLY.

Nerine Glory of Sarmia.—A very handsome variety with flowers of crimson-scarlet. These two came from Messrs. Barr and Sons, Covent Garden, W.C.

Nerine Salmon Queen.—The name is descriptive. The variety is an exceedingly handsome one, tall and imposing in stature, and bearing a fine head of flowers.

Tricyrtis stolonifera.—The Toad Lilies are remarkable for their quaintly-coloured flowers, and this is no exception to the rule. The above appears to be possessed of a more branching habit than some, the copiously-spotted flowers more bell-shaped in outline. These two came from Mr. H. J. Elwes, Colesborne.

Paulownia tomentosa lanata.—This handsome foliage plant was well shown by the Hon. Vicary Gibbs, Elstree, and for its leaf-growth is well worthy of cultivation. The flowers of the newcomer are said to be coloured violet.

Carnation Yellow Stone.—The flowers are of good size, pale yellow in colour, with occasional touches of palest primrose. From Messrs. Allwood Brothers, Hayward's Heath.

Carnation Queen Alexandra.—A fine pink-flowered sport from Scarlet Glow, the flowers of shapely form and supported on strong stems. The variety possesses a pleasing, if not powerful, fragrance. From Mr. Clarke, March.

Dahlia General de Sonis (Collarette).—Florets rich scarlet, the few inner florets being coloured yellow.

Dahlia Carl Bechstadt (Collarette).—A very showy variety of scarlet and yellow colouring.

Dahlia Offenbach (Decorative).—A fine yellow self of much merit. These three were exhibited by Mr. J. B. Riding, Chingford.

Dahlia The Quaker (Cactus).—The florets are finely incurved, and coloured for the most part a pinky white. From Messrs. J. Stredwick and Sons, St. Leonards-on-Sea.

The above-named Dahlias, having been adjudicated upon by a joint committee of the National Dahlia Society and the floral committee of the Royal Horticultural Society, carry the first-class certificate of the former and the award of merit of the latter.

NEW ORCHIDS.

FIRST-CLASS CERTIFICATE.

Cattleya Adula Glebe Variety (C. bicolor × C. hardyana).—This is an exceptionally fine form, with deep rose sepals and petals tinged with red, while the broad lip is purplish crimson. Shown by G. C. Phillips, Esq., Sevenoaks.

AWARDS OF MERIT.

Brasso-Cattleya Iris (C. Iris × B.-C. Thorntonii).—A charming acquisition to this class of Orchid, with rosy purple sepals and petals, while the large round fimbriated lip is crimson-purple with a yellow throat. From Messrs. J. and A. McBean, Cooksbridge, Sussex.

Cattleya Fabia Prince of Wales (C. aurea × C. labiata).—One of the best forms seen. It has purplish sepals and petals and a ruby crimson lip, with yellow lines in the throat. Exhibited by Messrs. Sander and Sons, St. Albans.

Odontoglossum crawshayanum superbum (O. Hallii × O. harryanum).—This variety has yellow sepals and petals with dark chocolate-coloured markings, while the large open lip is white, with purple spots at the base around the yellow crest.

NEW APPLES.

FIRST-CLASS CERTIFICATE.

Guelph.—A very handsome, highly-coloured and richly-flavoured variety. Parentage: Charles Ross × Rival. The fruits resemble the former parent in colour and flavour, but are larger in size. A deputation of the fruit committee were very favourably impressed with this Apple as seen upon the tree at Newbury. See illustration.

AWARDS OF MERIT.

Peacemaker.—In colour, form and size this variety closely resembles the former, but its fruits ripen quite a fortnight earlier. Parentage: Houblon × Rival. These two varieties were raised by that successful and veteran raiser Mr. Charles Ross, and were shown by Mr. W. Pope, Welford Park, Newbury.

Cliveden Prolific.—This variety, of medium size, possesses excellent cooking qualities; moreover, it is a very heavy cropper. It is claimed to be a poor man's Apple, as it crops heavily in good and bad seasons alike. Shown by Mr. W. Camm, Cliveden Gardens, Taplow.

The foregoing were all shown before the Royal Horticultural Society on October 7, when the awards were made.

GARDENING FOR BEGINNERS.

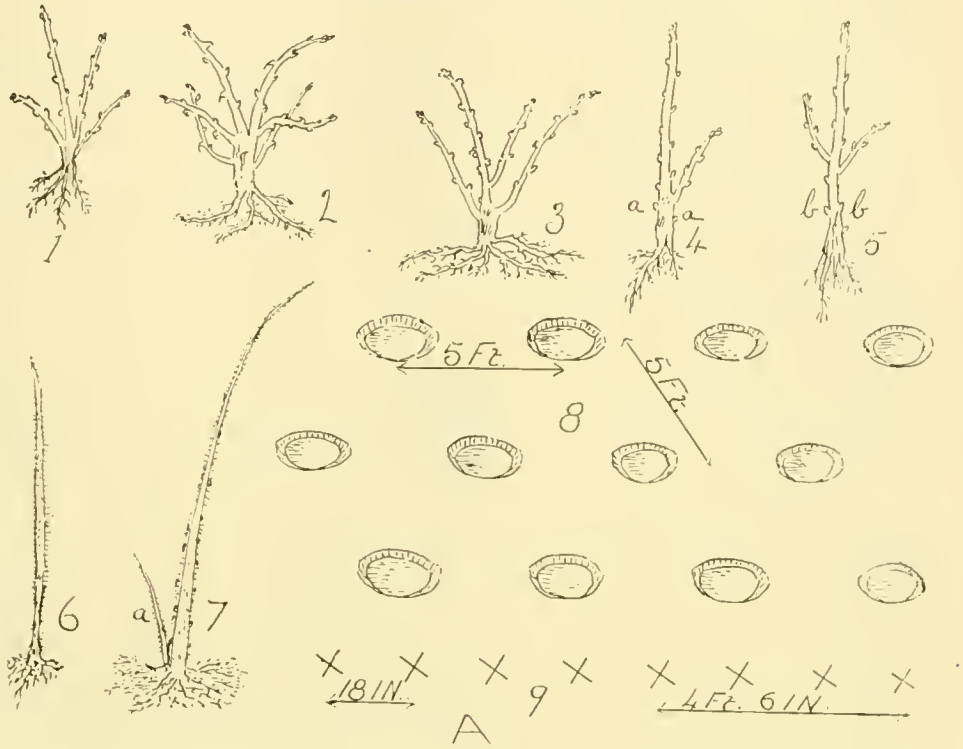
HOW TO PLANT BUSH FRUITS AND APPLES AND PEARS.

IN small gardens use must be made of every square foot of ground. Some cultivators utilise every square inch, practically reaping good crops of various kinds and, also, a lot of enjoyment out of the necessary work.

Not very long ago we were accustomed to see one or two very large Apple, Pear or Cherry trees in a small garden. Few such specimens remain; they had to give place to smaller ones representing several varieties in the same space, and in the modern garden the small tree has been, and rightly so, the first consideration of the cultivator. I am now dealing with such trees.

The Rooting Medium.—This is a very important matter, and must receive first attention. Unlike an annual or a plant in a pot, the fruit tree must remain in the same position for a number of years, and so we must thoroughly prepare the soil. Trench it 2 feet 6 inches deep at least. The subsoil must be well broken, but left below; all top soil—which is the best—should be left there. Where the trees or bushes are planted in rows, side by side, covering any considerable area, the whole of the ground must be trenched. For a single row of them, trench a space 7 feet 6 inches wide. For a standard or one bush or pyramid, trench a space 8 feet across. For bush fruits, only half the spaces denoted above will suffice.

Position.—Then, of course, there is the position to be considered, not only for the fruit trees, but also for ordinary vegetables and flowers. Fruit trees certainly need some shelter from north-east and south-west winds. Low sheltering fences or walls, which break the force of the wind without unduly obstructing air and light, are the best. Then, it follows that the fruit trees must have a position to their advantage without any disadvantage to other crops. Rows of tall-growing trees should always be planted on the south side of a broad path, as then the shadow they cast falls on the path, and not on the crops on the other side. Black Currants do well in a cool quarter.

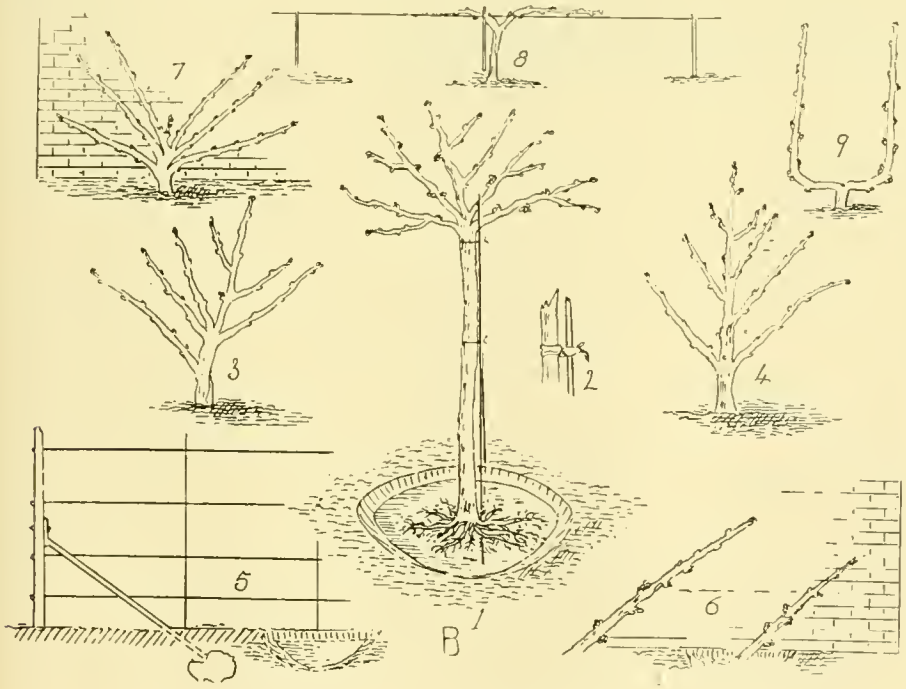


HOW TO PLANT BUSH FRUITS. THE DIAGRAMS ARE FULLY EXPLAINED IN THE TEXT.

How to Plant the Trees and Bushes.—I will first deal with Black, Red and White Currants, and Raspberries and Gooseberries. Fig. A shows at No. 1 a young Black Currant; No. 2, a Gooseberry, the two thin, lower shoots of which must be removed; No. 3, a Red or White Currant. No. 4 shows a rooted Black Currant cutting; the buds, *a*, *a*, must be retained. No. 5 shows a Red Currant cutting; the basal or stem buds, *b*, *b*, must be picked out, also any showing on the stems of White Currants or Gooseberries. No. 6 shows a weakly Raspberry cane, and No. 7 a strong one; after cutting off the tiny sucker, *a*, plant such a cane. These few hints will be useful as regards the preparation of bush fruits for planting. The distance apart from bush to bush when forming plantations is shown at No. 8. Raspberries—single plants—must be 18 inches apart; and if planted to form clumps of three or five canes, in rows 4 feet 6 inches asunder, as shown respectively at No. 9.

Apples and Pears.—Fig. B at No. 1 shows how to plant and stake a standard tree, and No. 2 how to fix the tying material. Nos. 3 and 4 show a bush Apple and a pyramid Pear respectively after planting. No. 5 depicts how to fix a wire trellis for espalier trees; No. 6 how to train single cordons on low walls; and No. 7 how to train the branches of a fan-shaped specimen on a wall. No. 8 represents a cordon trained on low wires near a path, and No. 9 a double, upright cordon. The latter furnishes wall pillars very nicely. Plant firmly while the soil is pretty dry, and make the latter firm around the roots

G. G.



PLANTING STANDARD, BUSH AND CORDON APPLES AND PEARS.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Gladioli.—As the foliage becomes matured, these should be lifted, spreading them out in a frame, shed, or some other dry place till they can be cleaned off, afterwards storing them in a cool, dry place for the winter.

Montbretias.—In some localities these will stand the winter quite well in the borders; but in cold, damp situations it is wise to lift and treat them much in the same way as Gladioli; but, the bulbs being smaller, they will not stand the same amount of drying.

Begonias that were lifted from the beds should now be in a dry enough condition to warrant their being cleaned over, removing the old shoots carefully and all loose soil, when they also should be stored in boxes or trays in a dry shed that is not too warm.

Cannas I have found grow best if they are not allowed to get too dry during the winter. Remove all the decaying foliage from the plants that have been lifted, when they may be stored in a cool, dry house with a little light soil or leaves among the roots. I have also brought them through the winter very successfully in an ordinary cold frame well protected with dry leaves.

The Pleasure Grounds.

Good, Deep Trenching is most essential where shrubs are to be planted, as rarely can the soil be moved much afterwards. Very poor soils should be enriched with some good loam, peat, leaf-soil, or manure, according to the nature of the shrubs that are to occupy the ground, though fairly good and holding loam rarely needs much enriching for ordinary shrubs.

Planting.—It is full early for planting, but there is no need to delay it after the soil has got wet enough to allow the plants to come up with good balls of soil, early-planted shrubs having by far the best chance of going through the following summer without ill-effects.

Plants Under Glass.

Specimen Plants, such as Bougainvilleas, Clerodendrons and Allamandas, may be removed for the winter months to a cool house; in fact, a resting fruit-house is a very good place in which to winter them.

Roof Climbers, wherever possible, should be shortened back or tied in, so as to admit as much light as possible to the plants underneath, and in many instances water need only be given now in very sparing quantities, so as to rest the plants as far as possible.

Fuchsias.—Old plants that are to be kept over for another season should now be in a fit condition for storing, and if there is not room to store them in a cool, dry greenhouse, any old shed where frost can be entirely excluded will do for them, dry straw placed among the pots and among the wood often making them quite secure, where, if not covered, they might get the frost during a very severe spell.

Young Plants that may be growing on through the winter to make specimens should be very carefully watered, or, if the temperature happens to be rather high, the growth will become soft and attenuated, and this is not desirable.

Freesias.—The early-potted plants are now growing freely, and if they are wanted in flower by Christmas, they must be given just a little heat. A very light and warm frame will suit them well, but a shelf in a rather warm greenhouse will probably keep the foliage a little harder and stronger. Stake as soon as required, for once the growth goes down, distorted flower-spikes are the result.

Chrysanthemums will need a fair amount of attention just now, and all damped petals must be removed before they affect others near them. Fire-heat now is quite essential at night, and where the blooms are near the ventilators, tiffany stretched above them will possibly prevent a good deal of trouble from damping. Avoid draughts through the house as much as possible, as I believe more blooms are lost from this cause than from any other, so restrict the front ventilation during damp or foggy weather.

The Kitchen Garden.

Carrots.—Growing crops in frames should have the lights put on at night now, as a sharp frost would practically stop their growth, and providing there is the faintest suspicion of warmth in the bed, they will continue growing for some little time yet. Matured roots should be kept drier, as even small Carrots will be found to split if given too much water after their growth is practically finished.

Mint that may have been grown on in boxes as advised in an early calendar may now be introduced into heat in sufficient quantity to keep up a supply, and if it has been allowed to get rather dry, I find it comes along fairly quickly after a soaking or two of water, and once it gets a start, liquid manure-water is a distinct advantage.

Hardy Fruit.

In every garden where a quantity of fruit is grown there is each season a proportion of the trees that would be benefited by a change of position. Certain varieties may not do well in the position they are in, which, if shifted, say, on to higher ground or, maybe, on to lighter soil, might prove highly remunerative, so that wherever trees are found to be doing badly and which have been root-pruned with a view to improving their cropping qualities, they might well be given another chance.

Trees Planted in Heavy, Wet Soils often do very badly, particularly Pears, and in one instance I noted, after they were lifted bodily and planted from 9 inches to a foot higher out of the ground, the trees commenced to give good, clean crops, and the inference drawn from this is that under such conditions trees cannot well be planted too near the surface.

Preparation of Ground for Planting.—Here again I would emphasise the necessity of thoroughly preparing the ground before planting, either by trenching deeply the whole of the ground in the case of planting in the garden, or, if for orchard culture, breaking up really good stations for them, in no case less than from 8 feet to 10 feet across. It may not be necessary to add manure to the soil; rather add old mortar rubble, leaf-soil, or anything of a lightening nature on close, retentive soil, and good loam or a proportion of clay, well incorporated, into soils that are too light.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Lifting and Storing Dahlias.—These showy autumn flowers cannot be expected to do duty much longer, and must soon be lifted and stored. A dry day should be selected for the work. Cut the plants down to within 6 inches of the ground and lift carefully with a digging fork.

Spring Bedding.—There is nothing to be gained, but rather the contrary, by delaying this work longer. Clear away the summer bedders and give the beds or borders a dressing of half-decayed manure. Dig deeply, leaving a nice smooth surface. Last year, in a geometrical design of twenty beds here, fourteen of them were planted with Royal Blue Forget-me-not, and the remainder (fairly large beds) were filled with three varieties of Wallflower, and so pleasing was the effect that we are going to repeat the arrangement this year.

The Rose Garden.

Firming Plants.—The more vigorous varieties of Roses are often a good deal knocked about by the autumn winds, and upon close examination it will be found that they have been loosened at the neck. The whole stock should be gone over, and any plants which have thus suffered should be firmed with the foot, the plant being held in position by one hand meanwhile.

The Rock Garden.

Building.—Unless one is dealing with a natural slope furnished with loamy soil, the surface should, before building commences, be covered with from 6 inches to 12 inches of soil of the nature indicated. Where height is desired and a natural slope does not exist, part of the desired height should be obtained by means of excavation, the excavated soil being thrown up some distance above the ground-level on either side. By this means moisture will be largely conserved and less watering required.

The Pleasure Grounds.

Sanding Lawns.—Of the utility of this operation there can be no doubt, more especially on heavy soils. It furnishes a free root-run for the finer grasses, checks the growth of moss, and makes it more easy to maintain a perfectly smooth surface. The sand should be scattered over the surface as evenly as possible by the hand, and the lawn should afterwards be gone over with a new Birch broom to further ensure the proper dispersal of the sand.

Gravelling Walks.—Walks requiring fresh gravel should have attention in the autumn in preference to spring, for several reasons; Work is not so pressing at this season, everything should be done to make things look fresh and bright during the dull days of winter, and, by attending to the work now, the walks will be cleaner and drier during wet winter weather.

Plants Under Glass.

Deciduous Calanthes.—These beautiful terrestrial Orchids will now be showing colour, and should enjoy a fairly warm temperature with rather dry conditions both at the root and in the atmosphere, otherwise damping is sure to take place. These flowers always seem to look their best when associated with Ferns.

Perpetual-Flowering Carnations.—Whenever the temperature falls below 45°, a little fire-heat should be applied. Air should be given when the weather is at all fine, but not during fog, as it tends to curl up the blooms. If good blooms are expected, disbudding must be attended to as these develop.

Fruits Under Glass.

Guavas.—Although not fit to be classed among first-class fruits, still, these West Indian fruits commend themselves to some tastes. Where the Vines are allowed ample room, Guavas succeed very well on the back wall of a vinery. They must have a thoroughly well-drained soil, which should chiefly consist of sandy fibrous loam with an admixture of leaf-mould and dried cow-manure.

Pot Fruits.—Any of these which have not yet gone to rest will be benefited by an application of weak liquid manure to assist in the process of swelling the buds. As the trees naturally go to rest, however, water should be more sparingly applied.

The Hardy Fruit Garden.

Replanting.—The trouble generally, with Apples and Pears especially, is not so much to get them to grow as to throw them into and maintain them in a fruiting condition; in other words, to induce the trees to produce fewer wood-buds and more fruit-buds. A fortnight ago I referred to root-pruning as one means of attaining the desired end. Another means is that of lifting the trees and replanting them. The check to the trees consequent upon this operation generally has the desired effect, and marvellous results have sometimes been obtained by this means with trees which have been barren for years. Some cultivators invariably lift and replant their young trees after they have made their first year's growth.

The Vegetable Garden.

Cauliflowers.—In many districts sharp frosts are often experienced about this season. When such is the case, all Cauliflowers fit for use should be lifted and stored in a cellar. They can either be laid in among soil or hung up head downwards. I heard the other day of the latter method succeeding well in a disused ice-house.

Celery.—Continue to earth-up the crop as necessary, and when the final earthing is given, finish off with a smooth, sloping surface, so as to carry off the winter rains as far as possible.

Asparagus.—As soon as the grass has died down, cut it over and clear it away, remembering that it forms a good protection for beds of bulbous plants which are barely hardy. After removing any remaining weeds, give a liberal dressing of half-rotted farmyard manure and fork it in with the digging fork.

Lifting Rhubarb Stools.—It is found that Rhubarb responds more readily to forcing when the stools have been lifted for some time and exposed to the clemency of the weather.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NURSERY NOTES.

WILL TOBACCO PAY IN ENGLAND?

It is quite within the bounds of possibility that Tobacco-growing will develop into a large industry in this country within a few years. Experiments of a very satisfactory nature have been carried out in Hampshire, Surrey, Norfolk, Suffolk, Lincolnshire and Worcestershire. About one hundred and thirty acres have this year been laid down by the Tobacco Growers' Society—a non-profit-making co-operative association affiliated to the Agricultural Organisation Society and assisted by grants from the Development Commission. Speaking generally, the crops in the various counties have exceeded expectations; but as the subject is yet in its infancy, it is of little use going into elaborate calculations on yields and averages at this stage. It is suggested that Tobacco will prove to be a poor soil crop. There is a difference of opinion on this point at present, but the plea is that Tobacco is going to do well on the poor light land in Norfolk, Hampshire and Dorset, which at present is of little more than sporting value. Be this as it may, we are undoubtedly handicapped in the question of climatic conditions. It may not be generally known that Tobacco owes its flavour in no small degree to the gum or sticky secretion upon the leaf. As this is formed on the upper side of the leaf, it is only too readily removed by heavy rains. Moreover, the leaves are liable to damage by wind as well as rain. Now, these adverse conditions may be overcome by the modern invention of movable glasshouses. The system has reached a high standard of perfection, and by its use the inventor, Mr. Pullen Bury, Sompting, near Worthing, claims to have solved the problems of Tobacco-growing in this country. The system of movable glasshouses is the outcome of experiments extending over many years, and so admirably has the principle been perfected that the pipes, boiler, wires, ventilating gear, &c., are all moved in one simple operation by turning a handle. Such structures are being very profitably used for the purpose of growing Asparagus and French garden crops, and they afford just the necessary protection to bring the Tobacco leaf to a state of perfection. Our illustration depicts a movable house filled with Tobacco. Mr. Pullen Bury (the figure on the left of the illustration) is seen holding some Tobacco leaves of good but average size. These leaves, it should be noted, have small midribs—an important point in their favour; but the blades of the leaves are well expanded. This is the result of quick growth, brought on under glass, and such leaves are said to give quality and mildness to the Tobacco produced. At the time of our visit to Worthing, Tobacco leaves were seen hanging from the wires inside the hothouse to wilt while the hothouse is fulfilling the function of forcing. As already stated, it is as yet too early to say, with any degree of certainty, that Tobacco-growing can be made a paying industry in this country. That it can be induced to flourish there can be no doubt, and if only a tithe of the Tobacco sold in this country could likewise be grown here, it would provide a vast industry.

TOBACCO-GROWING UNDER GLASS. MR. PULLEN BURY, THE INVENTOR OF THE MOVABLE HOTHOUSE SYSTEM, IS SEEN ON THE LEFT OF THE ILLUSTRATION.

MESSRS. H. MERRYWEATHER AND SONS.

There are few better-known nurseries in the Midland Counties of England than those of Messrs. H. Merryweather and Sons, a firm that has been established for many years at the historical little cathedral town of Southwell, some twenty miles from the city of Nottingham. For gardeners generally, and fruit-growers in particular, these nurseries have a peculiar interest, inasmuch as it was from them that the well-known culinary Apple Bramley's Seedling was first put into commerce. For many years Mr. Merryweather, who is the senior partner of the firm, endeavoured, though in many instances unsuccessfully, to induce fruit-growers in many parts of the country to plant this Apple on a large scale. Meanwhile, knowing that he had a variety of sterling merit, he was busy planting all the spare land that he had, and the result to-day is that he has orchards of large dimensions filled with beautiful trees that are capable of bearing from ten to twelve bushels of fruit each. During recent years fruit-growers and salesmen have awakened to the possibilities of this Apple, which is in season from Christmas until April, with the result that the demand for trees and fruit all over the country is far in excess of the supply.

On a sunny day in September we had the pleasure of spending some time in the nurseries and orchards belonging to the firm, and the trees of this Apple, ranging from five to thirty years of age, were a sight worth going many miles to see. In the gardens in the district one also meets with trees on every hand, one and all bearing enormous crops of fruit second to none for culinary purposes. Not far from the firm's nurseries, Mr. Starkey, the local M.P., had a field of forty acres planted with standard trees of this Apple a few years ago, the work being entrusted to Messrs. Merryweather, and it is one of the finest examples of orchard planting that we have ever seen. If the Development Commissioners desire a lesson in orchard planting, they should visit Southwell and see this orchard, which is rapidly growing into a most valuable asset. In addition to the ordinary Bramley's Seedling, Messrs. Merryweather now have a form of it with red fruits, which ought to prove particularly useful for market.

The Merryweather Damson, of which we published a coloured plate in our issue of October 22, 1910, is a fruit that ought to be in every garden. We were privileged to see the original tree in the nurseries at Southwell, and it was simply laden with rich-coloured fruits, many of which were as large as Orleans Plum. When we say that it has the true Damson flavour and that the trees fruit well in quite a young state, we think it will be admitted that our statement that it ought to be in every garden is fully justified. Another good fruit that this firm has raised is Red Currant The Southwell. It has a particularly robust habit, flowers late, so as to escape damage by frost, and bears heavy crops of deep red berries, the flavour of which leaves nothing to be desired. In addition to the above, the firm has splendid stocks of all kinds of hardy fruits, including cordon Gooseberries, espalier Apples and Pears, fan-shaped Plums and Peaches, Loganberries, the newer Lowberry, Blackberries and Nuts, and all, at the time of our visit, were in the very pink of condition, sturdy, well-ripened wood auguring well for their success when the trees and bushes are planted in their permanent quarters.

Equally as important a branch of Messrs. Merryweather's business is that devoted to Roses. This year they have over two hundred thousand bushes to dispose of, these embracing large quantities of all the best standard sorts as well as the cream of recent introductions. When growing Roses in our gardens, we ought not to forget that it was this firm that first gave us those two gems of the Dwarf Polyantha section, Jessie and Phyllis. When we were at Southwell these were creating a wonderful sight, rows about two hundred yards long being a perfect glow of colour. Jessie has flowers of rich, warm crimson hue, while those of Phyllis are bright rosy pink. Having grown them for several years, we have no hesitation in saying that they are the best of the whole section, for they are never out of flower from early July until October or November frosts call a halt. Another point in their favour is that they do not lose their colour in the strongest sunshine. We would like to see large lawn beds of these Roses. A circular one some ten yards in diameter, planted fairly thickly in the centre with Jessie and a yard-wide edging of the white-flowered Katherine Zeimet, would be most effective, and far better and much more lasting than the bizarre and expensive effects so often obtained by the use of Zonal Pelargoniums and other plants still so dear to the heart of many gardeners. Phyllis, intermixed with Lavender in the proportion of two Rose bushes to one of Lavender, would give a charming and uncommon effect that would, we

feel sure, be much appreciated by all who saw it. Among Roses of recent introduction we were interested to see good stocks of British Queen, a large, pure white-flowered variety; Rayon d'Or, deep canary yellow and quite mildew-proof; Sunburst, cadmium yellow and perfect in shape; Florence Haswell Veitch, rich crimson, very fragrant; and Mrs. Herbert Stevens, pure white and very useful for florists. Of rather older sorts, but as yet new to many of our readers, mention must be made of Château de Clos Vougeot, deep crimson maroon; Lieutenant Chaure, large crimson, very fragrant; Leslie Holland and Edward Mawley, both crimson; Lady Alice Stanley, pink, shaded glowing rose; and Marquise de Sinety, a deep-coloured Mme. Ravary. Among the Rambler Roses, of which Messrs. Merryweather have a very extensive stock, mention must be made of Excelsa, glowing crimson; Shower of Gold, yellow and very hardy; Lady Godiva, a salmon pink sport from Dorothy Perkins; White Dorothy Perkins, American Pillar and Hiawatha.

In addition to Roses and fruit trees, the firm has a very fine stock of English and Irish Yews, Cypresses and other conifers, Rhododendrons, all sorts of hardy deciduous shrubs, herbaceous plants and, indeed, everything that one would expect to find in well-equipped nurseries of such large dimensions. The healthy condition of this stock and the firm's up-to-date method of business have brought them repeat orders from every corner of the British Isles, as well as from many more distant parts of the globe.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

THE GREENHOUSE.

BLUE HYDRANGEA FLOWERS (*Mrs. N. W.*).—A shade of blue in Hydrangea flowers such as those sent is not uncommon. In soils containing plenty of iron some of the blooms, if not all, invariably develop the blue tint. It is possible to produce the colour in plants by giving them water in which alum has been dissolved. Another method which is sometimes successful is to mix a few iron filings in the potting soil.

DRYING OFF HIPPEASTRUMS (*Dorset*).—Do not dry off your Hippeastrums till the leaves turn yellow, but give them plenty of air and sunshine. Then, when the plants show signs of going to rest, less water should be given, and when they are quite dormant it must be discontinued altogether. During winter keep them dry in a temperature of 50° to 60°.

LILIUM LONGIFLORUM HARRISII (*C. B. A.*).—In order to have these in flower at Christmas, the most satisfactory way will be to obtain retarded bulbs, which in a temperature of 55° to 65° will flower from twelve to fifteen months from the time of potting. Single bulbs, according to their size, may be grown in 5-inch or 6-inch pots, while three can be put in a pot 6 inches to 7 inches in diameter. When growing they should have a good light position assigned to them, and care must be taken that aphides or green fly do not effect a lodgment in the young leaves, as they soon injure the growing buds. The Bermuda-grown bulbs of Lilium Harrisii will, if potted now, flower during the month of January or later. There is no need to start the bulbs in the dark; just pot them and place them in the greenhouse.

TREATMENT OF CŒLOGYNE CRISTATA (*Dorset*).—In the spring, as soon as the flowers are over, the plants should be given a short rest by lessening the supply of water, but not sufficient to cause the pseudo-bulbs to shrivel. When young growth recommences, repotting, if necessary, may be done, but the plants take a long time to recover from the shock. For this reason, should the roots be in good condition, top-dressing is generally preferred to repotting. Deep pans are preferable to pots, and a very suitable compost, either for repotting or top-dressing, may be made of equal parts of sphagnum moss and fibrous peat or Osmunda fibre, with a sprinkling of small broken crocks and rough silver sand. After this an excess of moisture must be guarded against, though atmospheric moisture set up by occasional spraying, with the damping of the stages and surroundings, will be beneficial. During the winter the roots must be kept moderately moist. At that season a temperature of 50° to 60° will suit it well.

FRUIT GARDEN.

TOMATO DISEASE (*K.*).—The Tomato is badly nourished. Sulphate of potash should be added to the soil; this will tend to the equal ripening of all parts of the fruit.

PEAR FOR INSPECTION (*Reader*).—The Pear is overripe and has been attacked by the Pear scab fungus. Prune out during the winter all dead and dying shoots, and spray the tree just as the buds burst, and again after the petals fall, with Bordeaux mixture.

APPLE EMPEROR ALEXANDER GOING BAD (*H. Taylor*).—This fine-looking Apple should be ripe at the end of September, and is therefore an attraction to wasps and blowflies. We can only suggest that the fruit has been injured by these pests, the injury spreading in the further decay of those parts. The fruit should have been gathered as soon as the decay was noticed. We could have given you a better answer, perhaps, had you sent us a sample of the bad Apples.

TO MAKE WALL TREES BEAR FRUIT (*L. A.*).—In the first place, we would have the wall pointed so as to do away with the harbour the deep crevices in it afford to insect pests. In the next place, we should lift the trees and replant, after cutting all the strong roots back by one-third their length, and shortening also all the smaller roots by 3 inches or 4 inches. This will prevent the trees growing too luxuriantly, and should compel them to bear fruit. In replanting, use the following soil compost: To one cartload of turfy loam add two bushels of old mortar rubble, two bushels of lime and a peck of bone-meal, mixing all well together. Let the work be done in dry weather, and give the trees a good watering when planting is finished. Fertilise the blossoms on sunny days when the pollen is dry. Take down the close netting every day while the weather is favourable, and put it up again in the evening when danger from frost is feared.

KITCHEN GARDEN.

CELERY (*J. C. S. C.*).—The Celery is badly attacked by the fungus Septoria petroselini Apii, causing the disease known as Celery leaf-spot. This fungus is exceedingly common, we fear, now, and is undoubtedly carried in the seed. Spraying, to be effective, must be commenced in May and carried on through the season, Bordeaux mixture being the best thing to use. All dead pieces and refuse from Celery plants should be burned, and not dug into the ground, and next season a fresh piece of ground should be chosen upon which to plant. The seed should be obtained from a clean source.

MISCELLANEOUS.

SUBSTITUTE FOR NATURAL MANURE (*H. P.*).—Wakeley's Hop Manure is the best substitute that we know for natural manure, although, of course, natural manure is the best where it can be obtained.

GROWTH ON BEECH LEAVES (*Hortis*).—The curious growth on the Beech leaf is the work of a minute insect, Hormomyia betulina, which sets up irritation in the leaf and causes it to produce this curiously-shaped gall. It is rather common on Beech trees in some districts.

CATERPILLAR OF THE VAPOURER MOTH (*R. C.*).—The caterpillar is that of the vapourer moth. When abundant these caterpillars do a good deal of damage, but are rarely so numerous that spraying has to be resorted to. If they are found in any great numbers, spray the trees with lead arsenate.

CATERPILLARS (*H. E. I.*).—The caterpillars are those of the type known as surface grubs, which feed on a variety of plants during the night, hiding during the day in the earth, where, from their colour, they are well concealed. Hand-picking is the best remedy, but heaps of bran, poisoned by moistening with Paris green or lead arsenate, placed near the plants might prove attractive to them, to their undoing.

REMAKING GRAVEL PATHS (*Scot*).—There is nothing to equal good, yellow, binding gravel for the surface of the paths which are to be kept smooth by rolling, and we regret to say that we are unable to recommend any other material of a like character which may be procured in Scotland. Perhaps a local builder may be able to suggest something, or be able to advise you as to the nearest point at which binding gravel may be obtained.

HOLIDAY COTTAGE GARDEN (*F. M. W.*).—The general outline of the plan will do very well. It does not indicate, however, where you are likely to be overlooked and subjected to the objection of which you complain. This is important, since on the northern and eastern boundaries you have either existing, or you intend planting, both Elm and Plane trees, and it would be difficult to get plants having screen-like habits to succeed in their proximity. Then, in place of the single line of Roses, which, by the way, are arranged too closely together at the edge of the lawn, a bed or border across its western end would have been better, and in full view from the tent. Good Roses for the pergola would be Lady Gay, Grüss an Teplitz, Sylvia, Tausendschön, Shower of Gold, Celine Forestier and Bordeaux. Free-flowering Roses for the garden should include Caroline Testout, Mme. Abel Chatenay, La France, Marquise de Sinety, General Jacqueminot, Prince Camille de Rohan, Château de Clos Vougeot, General Macarthur and Duchess of Albany. Standards are usually available of most of those named, though we think bush plants would be more suitable in your case. The Moss and Cabbage Roses may be had from any Rose-grower. It is rather difficult to recommend plants for the herbaceous borders, and if they are intended to grow under the Elm and Plane, we do not hold out much hope of success. Good plants for the season indicated would include Phloxes, Pentstemons, Hollyhocks, Sunflowers (single and double), Aster acris, A. Amellus, Michaelmas Daisies in variety, Gaillardias, Statice latifolia, any of the Japanese Anemones, Helenium pumilum, H. p. magnificum and H. cupreum.

NAMES OF FRUIT.—*Mrs. C. P. B.*—1, Wellington; 2, Bramley's Seedling; 3, Allington; 4, Lord Grosvenor; 5, Lord Suffield; 6, Ribston Pippin; 7, Blenheim Orange; 8, Cox's Orange Pippin; 10, Cobham Pippin; 11, Warner's King; 12, Cellini; 14, Hawthornden; 22, Emperor Alexander; 23, King of the Pippins; 20, Hall Door; 21, Allington; 24, Queen Caroline; 25, Gloria Mundi; 15, Mank's Codlin; 16, Bismarck; 17, Alfriston; 26, Cellini; 19, Lane's Prince Albert.——*Constant Reader. Perthshire.*—1, Lord Derby; 2, Queen Caroline; 3 and 4, Kedleston Pippin.

NAMES OF PLANTS.—*Harold Ostlere.*—Laurent Carle. ——*D. D. D.*—We believe the Rose is Mme. Pol Varin Bernier; certainly it is not Alice Grahame.——*Lieut.-Colonel H. F. Dent.*—We believe the Rose is correctly named. Roses vary greatly at this season of the year. ——*A. K., Burnshangie.*—All seedling forms of Aster Novi-Belgii.——*Mrs. B., Sutherland.*—Rhacomitrium canescens. It may be grown on damp rocks.——*F. C. B.*—The Clematis may be C. Flammula, but we cannot be certain without seeing flowers.——*Miss H. B.*—Collinsia bicolor. ——*Matthew.*—1, Carex brunnea variegata; 2, Begonia metallica; 3, B. fuchsioides; 4, Aloe species; 5, Adiantum pulverulentum; 6, Nephrolepis Piersonii variety; 7, Adiantum formosum; 8, Selaginella Braunii; 9, Nephrodium molle; 10 and 11, No specimen; 12, Polypodium aureum; 16, Asplenium species.——*A. P., Sussex.* —1, Aster ericoides variety; 2, Chrysanthemum uliginosum; 3, Linaria Cymbalaria; 4, Colutea arborescens (Bladder Senna); 5, Cannot name without flowers.—— *J. E. L.*—1, Crinum species probably (cannot name without flowers); 2, Hieracium aurantiacum; 3, Colchicum speciosum; 4, Cattleya bicolor; 5, Escallonia macrantha; 6, Osmanthus Aquifolium; 7, Phillyrea media.——*R. T. H.* —1, Helxine Solierolii; 2 and 3, cannot name without flowers.

THE EDITOR'S TABLE.

Pentstemons from Scotland.—The arrival of a box containing numerous spikes of Pentstemon blooms serves to remind us of the great value of these showy flowers even late in the season. The flowers came from Messrs. John Forbes of Hawick, who have long specialised in Pentstemons and various other border plants. Of the varieties sent we were much impressed by those of dark crimson shades, of which Grigor, Mendel and Colonel Seely may be cited as examples. Of the scarlet varieties Professor Pozzi stood out conspicuously, while Lady Hamilton and Comte Zeppelin were notable for their plum red hues and very strong growth. The more delicate tints of Mrs. Oliver, Jessie Forbes, Sir William Carrington and others are particularly pleasing when used as cut flowers for room decoration.

Gladioli from Dorset.—Very fine indeed were the massive spikes of Gladioli which arrived with the following note from Mr. F. Lansdell of Inglewood Nursery, West Moors, Dorset: "I am sending you a few blooms of Gladioli for your table. Princeps (the crimson one) is a glorious sight when planted in clumps of eight to twelve corms. It is not so well known as the pink one (America), but is far more effective for border work than that variety. White America seems the favourite for shop work. Another sterling variety is Halley, as large in bloom and spike as princeps, but of a salmon colour. Unfortunately, this is over, and I was unable to send you a spike."

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The National Sweet Pea Society.—The annual general meeting of the members of this society was held at the Hotel Windsor, Victoria Street, Westminster, on Monday afternoon last. A report of the proceedings, which were of an animated character, appears on another page.

Orders for Rose and Fruit Trees.—Owing to the exceptionally mild weather, Roses and fruit trees are still growing freely, and in many nurseries it is impossible to start lifting them. Under the circumstances, we hope that those of our readers who have placed orders with advertisers will not press for early delivery.

Lifting Begonias.—The first touch of frost will finish off these tender plants for the season. Lift them carefully and store them away in a cool place where they will be immune from frost. It is a good plan to place a little dry soil in the bottoms of shallow boxes and place the tubers in these thickly, one deep, with the crown upwards. Treated thus, the percentage of loss is very small.

A Graceful Knotweed (Polygonum equisetiforme).—This little-known Knotweed is specially noteworthy as an autumn-flowering subject for the rock garden. The plant is of Broom-like appearance, of low, branching habit. The dark green stems are dotted with small white starry flowers, which are both showy and welcome in October. This Polygonum is well adapted for planting among high rocks, so that the low, arching sprays may hang down and partly clothe the boulders.

An October-flowering Saxifrage.—In a sheltered nook in the rock garden or along the front of a shrubbery border the panicles of white flowers of Saxifraga Fortunei are delightful in late autumn. This year, if anything, the plants are flowering better than usual, the mild weather and warm rains being, no doubt, responsible for this. The panicles of flowers rise out of tufts of dark green, rounded leaves to a height of from 15 inches to 18 inches. The white flowers are very freely borne on the comparatively large spreading panicles. An interesting botanical character is the unequal size of the petals. Fortune's Saxifrage is a native of Japan.

Planting Lily of the Valley.—The Lily of the Valley is quite a universal favourite, and few gardens exist where this well-known plant does not find a home; but to keep up a good supply of first-rate blooms a new bed should be formed every three or four years, either by freshly planting an old bed or by new plants obtained. The present time will be found the most suitable for the operation, selecting a half-shady, moist place in not too prominent a position, for the ground is bare a good deal of the year. Should the soil be too light, some good loam with decayed manure should be worked into the soil; but if, on the other hand, it should be too heavy and damp, dig it out to a depth of 2 feet, putting in 6 inches of drainage. On the top of this lay some peat sods or turfy loam, then replace some of the soil after mixing with it some leaf-soil and dry cow-manure. Put the roots in 2 inches deep and 4 inches apart, and a good mulching afterwards will be found very beneficial.

An Interesting Tropical Fruit.—A plant of Eugenia alba growing in a pot on one of the side stages in the Palm House at Kew is causing considerable interest among the visitors by reason of its uncommon-looking fruits. Perhaps the easiest way to describe these fruits is to liken them to the white sugar Pears hung on a Christmas tree. They are borne in clusters, generally of three to five, at the ends of the branches. The waxy white fruits are 1½ inches long and 1 inch wide. The Eugenias in general habit and flowers resemble the Myrtles, the popular Myrtus Luma being sometimes cultivated as Eugenia Luma, notably in Ireland. E. alba is a native of India.

Mexican Tree Flowering at Kew. The beauty of the Mexican flora is well illustrated by a tree of Pachira macrocarpa flowering in the great Palm House at Kew. The tree has been at Kew since 1877, and evidently delights in the moist tropical conditions of the house, as it is about sixty feet in height, reaching to the central dome. A very handsome and attractive malvaceous tree, the leaves resemble those of the Horse Chestnut, being digitate, with usually nine leaflets. The flowers are large, with very long white, reflexed petals, in the centre of which are a mass of stamens of a reddish hue and as long as the petals. The tree is said to have been first introduced from Mexico in 1840, and is figured in the *Botanical Magazine*, t. 4549.

"Sporting" of Lilies.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. C. R. Scrase-Dickins showed a most interesting series of specimens of Lilium Sargentiæ. A bulb had last year produced a stem, part of which carried the foliage of L. Sargentiæ, part foliage similar to that of L. myriophyllum. This plant was grown from a bulbil, not from seed. This season offsets from it bore respectively foliage similar to that of L. Sargentiæ, L. myriophyllum, and partly of the one, partly of the other. The flowers were indistinguishable. It would seem that Mr. Scrase-Dickins had seen the passage of one species of Lily into another, or that the breadth of foliage which is constantly used as a distinguishing feature of these plants is a character of less importance than it is usually considered. Mr. Elwes drew attention to the remarkable variation to be seen between Lilies as one passes up the Formosan Mountains, as, though one species had produced forms adapted to the conditions under which they were growing and regarded by botanists who had seen only collected plants as specifically distinct, other characters in plants which had been used by herbarium botanists as a basis of classification were frequently variations of adaptation as seen in the field.

CORRESPONDENCE.

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

The Campanulas.—It will probably be more convenient for me to deal with the different points raised in correspondence about the Campanulas when the articles are concluded, rather than to discuss them in a desultory fashion. I am glad to see the remarks of Mr. Farrer and Mr. Jenkins on different species. They will help to elucidate questions which arise in connection with several of the smaller and also the larger Bellflowers.—S. ARNOTT.

Rose Peace for Cool Conservatories.—I possess a small plant of this, a rooted cutting from a very fine specimen growing in a cool structure somewhat shaded by Fir and other kinds of trees. My plant, about one foot high, nicely branched already, has borne one nice bloom and now carries another bud. The parent tree covers a roof space of about one hundred square feet. Another recently-rooted cutting has made much growth and now forms a fine bush in a pot, bearing flowers on ninety per cent. of its shoots. The old plant has flowers on it nearly the whole year round. The blooms are of medium size, soft yellow in colour, and borne on stiff stems. They look charming in vases. Amateur cultivators should have a plant in their greenhouse or conservatory, as it is such a lovely and satisfactory variety to grow.—G. G.

Rose Lady Pirrie.—If I were confined to one dwarf Rose in the garden, I think I should choose the above, for it possesses all the attributes found in any variety. In growth it is vigorous, having stiff, erect stems, with handsome dark leaves, which continue to give blossoms all the summer and well into the autumn. The peduncle is stiff, thus holding up its flowers quite erect, which is a distinct point when employing them for vases. Its colour is deep coppery reddish salmon, the inside of the petals apricot yellow, flushed fawn and copper. It is an ideal variety for massing, also has a delicious perfume. It was sent out in 1910 by Mr. Hugh Dickson, who received a gold medal for it.—E. M.

Name of Fungus.—In last week's issue of THE GARDEN Miss Jekyll asks for the name of a fungus growing under Scotch Firs. From her description I have little doubt that it is one of the two species of Sparassis. They both bear a considerable resemblance to a large bath sponge, and are very brittle in texture. Sparassis crispa is not uncommon on sandy soil in the South of England, usually under Firs or among Heather. S. laminosa occurs more rarely in similar situations, but is a looser-growing plant altogether. It was first recorded in Britain in 1905, when it was found in Woolmer Forest, and a very fine specimen was found there this autumn on the occasion of the British Mycological Society's visit to that district. Both species are well figured in "Fungi and How to Know Them," by E. W. Swanton. Although superficially bearing a slight resemblance to a morel, Sparassis belongs to a totally different group of fungi, *i.e.*, the Clavariaceæ, of which the pretty little white and yellow fairy-clubs are the most familiar examples. The spores are produced exposed to the air from the first, whereas in the morels and allied fungi the spores are enclosed in flask-like sacs, only opening at the apex at maturity.—NORMAN G. HADDEN, *St. Audreys, Priory Road, Malvern.*

AN OCTOBER-FLOWERING ALPINE: ACHILLEA KELLERERI.

The War on Wasps.—I was much interested to read W. W. Richardson's remarks on the war on wasps in your issue of the 18th inst., especially as a recent correspondent in a contemporary stated he had frequently caught lots of queen wasps in the ordinary wasp bottles, both in the spring and autumn. Do you think, Sir, that some organised plan or method could be put forward for the destruction of these pests? Would you encourage readers of your paper to write and tell something of their methods as to catching queen wasps, both in the spring and autumn? (1) How to successfully organise a prize for the greatest number caught locally. (2) Do queen wasps *really* enter the ordinary wasp bottles, as the writer has set them both in the spring, summer and autumn and *not* caught queens? (3) Any other successful traps? (4) How to manipulate your conservatory or your stoke-hole, *i.e.*, after W. W. Richardson, so as to find a lot ready to be killed at each visit.—W. F. M. COPELAND. [We shall be pleased to publish particulars dealing with the points raised by our correspondent if readers will kindly send them.—ED.]

Rock Garden Plants in October.—The very interesting note on this subject which appeared in last week's issue, page 525, will be read with appreciation by lovers of alpine flowers, as it serves to show that the rock garden may be made beautiful with flowers at this season as well as in the spring and summer. I was pleased to note the prominence given to that rare Milfoil or Yarrow, Achillea Kellereri, which induces me to send a photograph of it as it now appears in a Surrey garden. It is a delightful little plant, with heads of white flowers freely disposed over its silvery grey foliage. This plant is named in honour of Herr Kellerer, a lynx-eyed collector of mountain flowers, who has charge of the King of Bulgaria's garden at Sofia.—C. Q.

Nerines.—The article on Nerines by Mr. H. J. Elwes in your issue of September 13 was such an important floricultural event that I trust it attracted the attention to which it was certainly entitled. As a painstaking student of Nerines for some years, I acknowledge that it was most useful and helpful to me, especially as it cleared up several points as to which I have been in doubt. Like Mr. Elwes, I am much puzzled to know why the Nerine is not in more general cultivation. Its flowers are so charming, the colours so beautiful and sparkling under artificial light, and its requirements so few, that it would be well if some of the amateurs who now devote the whole of their glasshouses in autumn to Chrysanthemums could be induced to take it up, or at any rate let them devote part of their Chrysanthemum space to it. Its only enemy is mealy bug, which Mr. Elwes explains how to combat, and in other respects it is probably one of the most easily-cultivated under-glass bulbs that one grows, especially as it only needs repotting once in three years at the most. I agree in the main with Mr. Elwes' standards of a good Nerine, but I think he should have given a good spike more consideration. In looking round the Royal Horticultural Society's Show at Vincent Square on October 7 I noticed a number of what I call loose-panicled flowers. I like to see a spike that stands erect, its pips evenly distributed and a look of solid substance about it, such as was evidenced in Mr. Elwes' Salmon Queen, which gained an award of merit. Snowflake, of which Mr. Elwes speaks in his article, was, as shown by him on the above date, a distinct disappointment to me. It was decidedly tinted pale flesh colour, and not at all one's idea of what a pure white Nerine should be. Speaking again of Salmon Queen, it seemed, as I saw it, to bear a most remarkable resemblance to Rotherside, of which I put five fine plants before the Royal Horticultural Society's floral committee a month ago. I believe the two varieties to be identical.—F. HERBERT CHAPMAN, *Rotherside Gardens, Rye.*

Rose Mrs. James Lynas.—The illustration on page 516, October 11 issue, of this new Rose portrays the variety to perfection. I have three plants of it and all have given me numerous flowers; in fact, it is the best new Rose of the year with me. Every bloom, no matter how small, has been of perfect shape. The petals are especially massive without being coarse or ill-shapen, which gives the blooms such a handsome appearance. I expect to see this Rose universally grown before long.—E. M.

Lilac Flowering in October.—It would be interesting to know if any of your readers have seen a Lilac in blossom in October. The enclosed flower is off a good-sized tree of the ordinary kind growing in a garden here. It is not in a sheltered position. There are quite a number of blossoms out and plenty of buds, which, if the frost keeps off and the weather continues mild, will no doubt open. The flowers smell as sweetly as they do in the spring.—Ruth B. Cannon, *Painswick, Gloucestershire.*

An Unusual Flower-Bed Arrangement.—Walking along a neighbouring road the other day, I happened to notice some flower-beds in front of a house, the hedge next the road being rather low. Among them was one bed somewhat unique, I venture to think, for its colours puzzled me for the moment until I had a closer look. The plants then turned out to be a Heliotrope of a deep blue colour and Diplacus or Mimulus glutinosus. The blue flowers of the former mingling among the coppery shade of the latter was most arresting and pleasing. I have never seen the blending of these plants in any other garden or park, though it is well worthy of being copied, I am convinced.—C. T., *Highgate.*

Are New Pentstemons Too Large?—I note the paragraph on page 494, and do not agree with Mr. Bernard Crisp. If Mr. Crisp is wedded to such forms as Newbury Gem (syn. Hartwegii), then I do not wonder at his dislike of the newer florists' varieties, for which Mr. Forbes of Hawick has long been noted. I have grown the new varieties sent out by Mr. Forbes annually for the last ten years, and it was but last week I remarked "I have not seen any increase in the size of the flowers for several years now. Pentstemons have evidently reached their limit in size." For the embellishment of the garden in bed, border, or in lines of one sort, I think the superior forms of newer sorts have a distinct and increasing future before them. Take, for example, the variety George Home, bright scarlet, with a pure white throat, or some of the more recently improved forms of this raised by Mr. E. Beckett at Aldenham, and what more impressive sight of colour could we have in the garden? Flowers of this type have reasonably large bells, which expose the two colours, scarlet and white, to perfection; whereas in the case of P. Newbury Gem and its varieties they are lacking in colour and decision.—M. E.

The Charm of Michaelmas Daisies.—Those who grow these flowers only among the ordinary herbaceous plants can have no conception of their beauty and individuality when seen growing together in a mass, each variety given sufficient space for perfect development, as upon this so much depends to show each variety off to its fullest extent. Take the variety the Hon. Edith Gibbs, for example, which is a seedling from Aster ericoides elegans crossed with Robert Parker, a form of Novi-Belgii. This grows 5 feet high, throwing out side shoots within a foot of the ground. Each of these shoots right up to the point is smothered with its pale blue blossoms, making a perfectly-formed, drooping specimen right to the ground. When such varieties as these are huddled together with the ordinary herbaceous plant, no conception is possible of the natural beauty of the finest of Michaelmas Daisies. In years gone by, when we had no other forms but those of Novæ-Angliæ, like pulchellus, for instance, with its trusses of flower quite at the top of 6-feet shoots, there was no harm in crowding such at the back of the herbaceous border, if it were only to hide their gaunt-looking stems. Just one more mention of another sort, St. Egwin. When well grown this runs up a yard high and is almost as much through, a full, rounded head of rich rose colour that seems to require space to show off its richness and beauty which it undoubtedly possesses.—M. S.

Rose Fortune's Yellow.—I was much interested in Mr. Harriss' article on that most beautiful and desirable Rose, Fortune's Yellow, as grown at Lockinge, and am reminded of a very interesting discussion on the same subject which appeared in the pages of The Garden a few years ago. My knowledge of this Rose extends now for nearly two decades, and I am at one with Mr. Harriss in nearly all he says respecting its cultivation, differing only slightly in detail. A tree here is restricted to the long span of a hip-spanned greenhouse 24 feet by 12 feet, and the pruning and training is similar to that practised at Lockinge. Here are the differences in detail: Whereas the trees at Lockinge are planted inside, the tree referred to here is planted outside and trained through the wall, much the same as one would train a Vine, and I am inclined to think that this is the ideal way to grow Fortune's Yellow Rose. Permit me to add weight to this statement. Let us take growth first. I have referred to the tree here being restricted to the long span of the hip-spanned structure. So exuberant is the growth that it would in one season cover all the roof space if permitted to do so. This state of affairs is entirely free from any extra attention on our part, as feeding and watering is not practised during the growing season, the rampant growth being sufficient to hold our hands in this respect. One more item—we are entirely immune from mildew, and why we are so appears very obvious. Next comes colour. Mr. Harriss gives the blooms at Lockinge as a "beautiful apricot." Describing the colour here, I will do it this way: Let your readers refer to the coloured plate in your special and most excellent Rose issue, take the two half-expanded blooms of Irish Fireflame, add a dash of the carmine of Queen Mary, and the colour of most of the blooms as produced here is given to a nicety. It may be of some interest to mention that this particular tree is some thirty years old, and 2,000 blooms have been cut from it in one season. It is on its own roots, and the circumference of the stem a foot from the ground-level is 11½ inches. The rooting medium may be described as being neither light nor heavy, and chalk enters into the composition, but not largely. Feeding commences only so soon as the flower-buds begin to show, and continues throughout the flowering period. There is really nothing better as food than that recommended by Mr. Harriss—liquid manure from the farmyard. Reverting to the colour of the blooms of Fortune's Yellow, so intense have these been, and yellow appearing such a misnomer, that we feel constrained to refer to the Rose as Fortune's Rose, or its synonym, Beauty of Glazenwood.—J. McCallum, *Burkham Gardens, Alton, Hants.*

OCTOBER IN GARDEN AND WOODLAND.

OCTOBER—the Poet's Month—replete with charm and beauty—the beauty of peace and restfulness, the charm of unexpected surprises, cold nights succeeded by warm, balmy days with bursts of hot sunshine, that make the flowers think that summer may yet come back again—that fills the bees with work, that brings the Mushrooms up, and swells the later Blackberries, that hang so large and plentifully this year upon the tops of the hedges like bunches of wild Grapes:

> ". . . there is a harmony
> In autumn, and a lustre in its sky,
> Which thro' the summer is not heard or seen,
> As if it could not be, as if it had not been!"

Looking across the great weald the Oaks have hardly changed—only the quivering Birch trees on the hilltops stand here and there, flinging from them golden spray. The ripe Walnuts, the orchards full of fruit, all express "Autumn's ripe maturity." There is a calm on all lifeless things—the calm of decay, the silence of farewell,

> "The moist rich smell of rotting leaves,"

and a warm, grey mist that connects "the landscape with the quiet of the sky."

In the garden the stillness and silent mystery of October is only broken by the Chestnuts pattering to the ground, the hum of the threshing-machines at work close by, and occasional outbursts of the robin's song. One day we wake to find the world completely shrouded in a thick white pall, through which we can only just descry "the favourite hamlet faint and pale." Nature likes to draw a semi-lucent covering about her handiwork—without rush or hurry in a beautiful quiet routine she fulfils her will.

Birth, the rapturous awakening of love, death, and the strange movement of spring in every twig and hedgerow flower, the return of the swallows, the cuckoo's note upon its rightful day, the fields that are suddenly filled with the bleatings of lambs; at a certain date the Spanish Irises are all in bloom, the Cowslips awaken in the field, rich blossomings quite suddenly fill our Rose gardens and summer beds, the song of the watched-for nightingale at the self-same date; we know that Nature will tell the wild white Cherry to loosen its mass of trembling flowers—such mysteries are not for us.

As the mist rolls gradually away and the low sunshine throws long shadows across the lawns, and on "the silvery dews that drench the Furze," we hear

> "The autumn leaves like light footfalls of spirits passing,"

and we feel a presence has passed unseen, unheard, along the garden path. The Vine has changed to a lovely primrose yellow, the monstrous Pæony Dahlias droop their heads, and the Heliotrope says good-bye.

So sweet, so calm, should death be to all—not death, but a passing, through strange mysteries, to another life. The flowers are not dead—but after the "slumber of the year" will awaken to fresh life with the first touch of spring. M. C. S.

FORTHCOMING EVENTS.

October 28.—Southampton Autumn Show (two days).

October 29.—Kent County Chrysanthemum Show (two days). Borough of Croydon Show (two days).

October 30.—Torquay Flower Show. Maidenhead Chrysanthemum and Fruit Show.

THE CAMPANULAS OR BELLFLOWERS.

(*Continued from page* 524.)

C. Saxifraga. — C. tridentata Saxifraga of gardens, and mentioned under C. tridentata.

C. Scheuchzeri.—Practically a form of C. rotundifolia when in gardens, but with woolly leaves and blue flowers in June and July; white in the variety alba. Any soil.

C. Scouleri.—A North-West American species, a foot high, and with panicles of pale blue flowers in late summer. Level rockwork. Not, I think, in commerce.

C. speciosa.—A biennial limestone plant, a foot high, with a spike of large, bell-shaped flowers of pale purple. Ordinary soil. Seeds. June or July.

C. Stansfieldi.—A gem among the hybrids. From a close tuft of yellowish leaves rise big lilac blue and half-pendulous blooms in July. An easy plant for the moraine, wall, or flat terrace in the rock garden. Spreads well. Division.

C. stenocodon.—Scarce and rather difficult. After the style of C. pusilla, but with narrow, deep blue bells. Should be tried in the moraine, but not yet fully tested. July.

C. Steveni.—Becoming very popular on account of its dwarf variety nana, this Bellflower has a future before it. It has narrow, glossy leaves in a carpet, and nodding blue bells in June and July. Alba is white, and nana is a lovely 6-inch-high blue variety. Division or seeds. Avoid wet at the neck of the plants in winter.

C. thyrsoidea. — An old, yellow-flowered biennial, loving a dry place in sun. Rather coarse in its way, with its big head of flowers. Sow in June and grow on. Flowers in June and July.

C. tommasiniana.—A scarce little bushy plant adorned in July with narrow bells of light purple or blue. Slugs are troublesome. Moraine or gritty soil in the rock garden. Seeds or division.

C. trichopoda.—A dwarf species with pale blue flowers and about six inches or nine inches high. Moraine or dry parts of the rockery. Division or seeds, but rare and expensive. June.

C. tridentata.—This is a gem with a charming tufted growth and large flowers of violet blue or purple. It is closely akin to C. Saxifraga, if not the same. Moraine or ordinary rock garden light soil with grit. Seeds or division. June.

C. triflora.—Hardly, if at all, distinguishable from C. portenschlagiana, this requires the same treatment. Increased by division and seed where obtainable.

C. turbinata.—Referred to under C. carpatica.

C. tyrolensis or tirolensis.—This comes near to C. cæspitosa, and needs the same treatment.

C. uniflora.—A scarce and difficult plant, like C. excisa in its aspect and best in the moraine. Division. June and July until August.

C. valdensis.—There are two forms of C. valdensis in cultivation, one with downy leaves and blue bells after the type of C. rotundifolia, but narrow; the other with the flowers constricted like a soda-water bottle, lighter blue than those of the above, and the plant of dwarfer habit, between C. rotundifolia and C. cæspitosa. Crevices of the stones or the moraine. Division or seeds. July.

C. velutina.—See C. lanata.

C. waldsteiniana.—A gem for the moraine or rock garden in gritty soil. Only a few inches high, with dainty, starry flowers of pale blue in June. Crevices or level parts of rockwork or the moraine. Seeds or division. Sun.

C. Zoysii.—But for slugs this would be a favourite everywhere. It is of elegant, rather trailing growth, and in June produces charmingly-shaped, light blue flowers above tufted foliage. Gritty soil or the moraine.

S. Arnott.

(*To be continued.*)

THE GREENHOUSE.

THE PERSIAN CYCLAMEN AS A BIENNIAL.

After numerous experiments during the last twenty-five years, I have proved, to my own satisfaction at all events, that by far the best results with this grand plant are to be had by treating it as a biennial. I am aware that numbers of good gardeners disagree with this, holding that it is impossible to have really fine plants by this method. I am satisfied in my own mind, however, that with proper treatment quite large plants can be had in beautiful bloom fifteen or sixteen months after the seeds are sown. These easily beat the best old plants for size and substance of flower, while they also bloom for a longer period. Being very successful with this almost indispensable winter and spring flowering plant, perhaps a few notes on how I manage to obtain these satisfactory results may be of interest to others who admire the Persian Cyclamen.

CAMPANULA THYRSOIDEA, AN OLD BIENNIAL SPECIES THAT IS NOT WELL KNOWN.

Sowing the Seed.—In most cases seeds are sown at too late a date. Numbers of seed catalogues say that from October to March is the proper time. This may be well enough where a house can be devoted entirely to this plant, but for ordinary mixed culture it is much too late. I have always had the best results by sowing from August 9 to 15.

How to Sow.—Select fairly deep and perfectly clean seed-pans, those about nine inches in diameter being very handy. Crock with great care, and place some of the rough riddlings from the soil over the drainage. The soil should be a nice light, but fairly substantial mixture of three parts fibrous loam, one part flaky peat, one and a-half parts sweet leaf-mould, and one part rather coarse, sharp sand. The addition of about half a part of crushed charcoal is a great help, as it keeps the compost sweet. Pass all through a half-inch riddle and mix thoroughly. Fill the pans to within about an inch of the tops, and make moderately firm and quite level. Scatter the seeds very thinly and evenly, and press down gently with a flat piece of board. Sieve a little of the soil and cover to a depth of about an eighth of an inch. Water carefully either by plunging in a bucket of tepid water or by using a very fine rose on the watering-can. Cover each pan with a sheet of glass, and the glass with thick brown paper or damp moss. Place in an intermediate temperature, and in about three weeks' time the first of the seedlings will be peeping through.

Winter Treatment.—As soon as growth appears, remove the paper, but shade carefully from all sunshine. After all the seeds have germinated, gradually remove the glass and get the pans set up on a shelf quite close to the roof glass. Here they should be kept all the winter, attending to them very carefully with water, but also taking care not to sour the soil by too frequent applications.

Pricking Off.—It is a mistake to attempt this too soon. Experience has shown me that February is early enough, and by then each little plant should have four leaves. Two-inch pots should be used, and these should be crocked with three or four small pieces of charcoal. A mixture similar to that advised for seed-sowing is suitable. Pot lightly and leave half of the little bulb above the surface, water, and return to the same temperature, shading carefully. Sprinkle gently overhead twice daily from the time of pricking off until September.

Spring Treatment.—As growth starts in earnest, remove to a slightly lower temperature, and when the little pots are fairly well filled with roots (they must not be pot-bound), shift into larger pots. The very strongest may be allowed the 4-inch size, the others 3-inch or 3½-inch, according to strength. Use much the same compost, only a little more peat may be given, also a 5-inch potful of bone-meal and the same of Ichthemic Guano to the barrow-load of soil. Again pot lightly.

Subsequent Treatment.—As the weather improves, admit air in increased volume and pay great attention to watering. Shade from all sunshine is imperative, as is the sprinkling overhead. Some good growers advise removing the plants to a cold frame during the summer; but, personally, I prefer a greenhouse stage. Tomatoes on the roof, not too thickly planted, afford the proper shade, and under these conditions the plants are always under the eye and thrive beautifully.

The Final Potting.—For the strongest plants provide perfectly clean 6-inch pots. For the medium specimens the 5½-inch size, and for the weaker ones 5-inch pots are best. The soil should consist of three parts best fibrous loam, two parts best fibrous brown peat, one and a-half parts of sweet, flaky leaf-mould, and sufficient coarse sand to keep all sweet. Crushed charcoal may with advantage be added, while a 6-inch potful of bone-meal and a 5-inch potful of Thomson's Plant Manure or Ichthemic Guano must be allowed to each barrow-load of the other ingredients. Use in a fairly rough state, as the idea is to provide a nice "springy" compost. Crock the pots with extra care and again pot lightly, keeping the bulbs half their depth out of the soil. Water carefully and keep rather close for a few days. As soon as the pots are well filled with roots, feed about twice a week with weak liquid manure and soot-water. A tablespoonful of Ichthemic Guano in a gallon of water is one of the best stimulants it is possible to have for the Cyclamen. Vaporise with XL All Insecticide occasionally to keep down green fly and thrip, and in due course a fine display will be the reward for any little trouble incurred. Grow a first-rate strain like Sutton's Giant or Sutton's Prize. C. Blair.

Preston Gardens, Linlithgow.

FLOWER GARDEN.

TULIP NOTES.

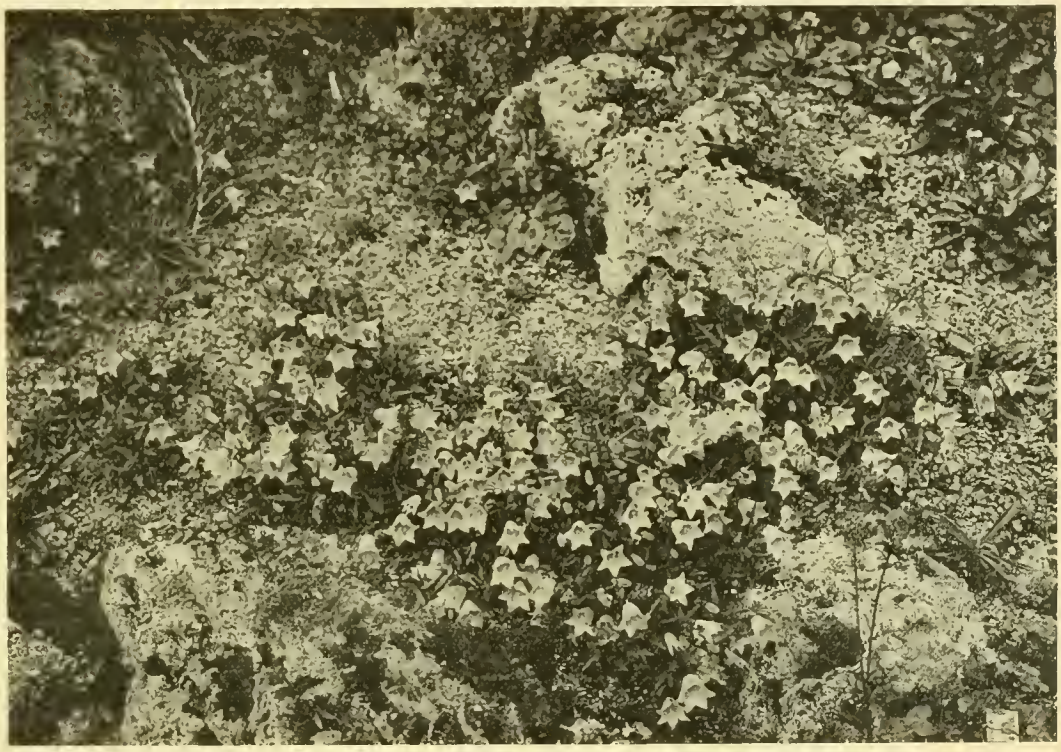
Some Early Varieties for Pots.

A prod from the Editor has made me once more put pen to paper to fulfil, before it is too late, my promise of a few "tips" for the great Tulip-time of 1914. For those who like to have a few "choiceities" and "out-of-the-wayities," let me suggest the purchase of Enchantress, a sort of pale ruby red with a blush edge; and Hector, a massive orange and yellow bloom with a strange dullness all over it, which at one time attracts and at another makes one wonder if one does like it or not. Then there is Jenny—among Tulips what Mother o' Pearl is among Sweet Peas—the sweetest, brightest, cheeriest little mortal that anyone could wish for as a companion, so *chic* in shape and of such a taking shade of cherry red in colour. De Wet I remember seeing at the Jubilee Exhibition at Haarlem as a new thing. Ever since I have been wondering when it would be obtainable. I believe it can be procured now, for I know it is in the wholesale list of M. van Waveren and Sons of Hillegom, and if so, then the probability is that some retail firms are cataloguing it but I am unable to say who they are. I have an idea that it is a sport from Prince of Austria, as it resembles that variety in everything but colour, which under glass is a real orange shade. In the open the colour breaks into its constituents and it is a mass of red suffused with yellow, which is wonderfully effective for room decoration, for, although I have not as yet grown it myself, I saw what an admirable cut flower it made at the "Woman's Work" Exhibition this year at Amsterdam, where on the day I visited the show it was used to decorate one of the furniture exhibits. Rose Tendre is a flower of the Cottage Maid type of colouring, but not so dumpy in habit or of such a pronounced pink. I like its pale shade very much indeed, and I rather think that in my pink and white trials this year it will be very near the top when the class list is made out next spring.

Tulip Trials at Wisley.—Before these notes are in print the Tulip-lovers of Britain and Holland will have been, I hope, gratified by seeing the announcement in the gardening papers that the Royal Horticultural Society are going to tackle the question of nomenclature. I trust that something will now be done to settle the question of synonyms, and that, when once these are sorted out and classified under the different varieties to which they belong, amateurs and dealers will accept the result as an *ex cathedra* pronouncement, promulgated indeed by the Royal Horticultural Society, but virtually threshed out and settled (if it is as it is intended) by a congregation of the combined wisdom of the Netherlands and the British Isles. After then, should any firm, small or great, or any private person, known or unknown, lay down a false scent, "let them or him be anathema." It is atrocious to go and rename any variety for no reason except, presumably, that of selling both it and its purchaser. I have been told that once upon a time Bishop Magee of Peterborough had some sauce spilt on his episcopal coat at a dinner-party. He looked up and down the table with a bland but imploring look, and said: "Will some layman make an appropriate remark?" How often have I—how often have those who read these lines—planted some newly-found treasure, only at flowering-time to wish that that layman was at our side?

One thing I would like to see done, and I appeal to my friends Mr. Krelage, Mr. Leak (of Messrs. R. H. Bath), Mr. Hugh Dickson (of Messrs. A. Dickson and Sons), and to all others, as they say, whom it may concern, to weigh carefully the propriety or otherwise of giving new fancy names to the broken Darwins or to the broken anything else. Let me put the case in a concrete form. A, B, C and D each has a bed of Mr. Farncombe Sanders. In each one a certain number "break"—that is, take on their final (?) striped appearance. As things are at present among these *garden* flowers, there is nothing to prevent A calling his "break" Mary, B calling his Jane, C calling his Betsy, and D calling his Anne. If these A, B, C and D were all traders and went in for increasing their stock until they could offer it to the public, it is quite possible to have the very same thing on the market under all these different names. Not so with the *show* Tulip. Once a Sir Joseph Paxton, *always and for ever* a "Paxton." The breeder form may be grown in fifty beds, and in fifty beds it may break, but no real Tulip man ever thinks of it as anything but Sir Joseph Paxton; he simply calls it "Sir Joseph Paxton flamed" or "Sir Joseph Paxton feathered," or he could equally correctly say "Sir Joseph Paxton broken." The old Tulip men went through all the bitter and provoking time of a haphazard and lawless nomenclature sixty and more years ago, and the principle now *universally* adopted among the show growers of to-day is one born of a long-drawn-out experience as being at once truthful, simple and speaking. I sincerely hope this question of naming "breaks" will occupy the attention of those who are called upon to form the nomenclature committee, and that the very much threatened tangle of names of the beautiful striped varieties will not be allowed to mature. Joseph Jacob.

[We should be pleased to hear the views of Messrs. Krelage, Leak and Hugh Dickson on the naming of Tulip breaks.—Ed.]



CAMPANULA STANSFIELDI, A BEAUTIFUL HYBRID WITH LILAC BLUE FLOWERS.

A LITTLE-KNOWN TORCH LILY.

(Kniphofia Tysonii.)

This handsome South African plant does not seem to differ in any way from Kniphofia caulescens, except that it flowers at a different time, the latter flowering during June, whereas the subject of this note flowers during August and September. Apart from its flowers, which are orange red, fading to pale yellow, its handsome, glaucous blue foliage would merit it a place in the garden, and, as the illustration shows, it is a handsome subject for a lawn bed. A large group of it, suitably placed, is very effective in a large rock garden, and on a sloping bank it is likely to get the right conditions to come through the winter safely, while damp and stagnant moisture often prove fatal during winter.

Although K. Tysonii likes dry conditions during winter, care must be taken that it does not suffer from drought during the summer, as, in common with other members of this genus, it enjoys copious supplies of water at the root during the growing and flowering season. As with most Kniphofias, this plant is not likely to prove over-hardy in cold districts, but a little dry litter placed round the plants should bring them safely through most winters. J. C.

A HANDSOME TORCH LILY OR RED-HOT POKER: KNIPHOFIA TYSONII.

ENGLISH IRISES.

This section of a large family is a most useful one, providing us with flowers in July, and by planting good bulbs a fine display of flowers can be relied upon. They succeed in any good soil, and are quite hardy. The flowers are large, and the colours rich and striking. The bulbs should be planted in autumn. September is a good time, although planting may be deferred till December. They may be planted in clumps in the herbaceous borders, or a border may be wholly planted with them. There are many fine varieties to choose from. The following are good forms: Anton, lavender, with rose flakes; Blondin, pale blue; Cassandra, pale lavender blue; Lilacina, pale blue, shaded lilac; Mme. de Beauharnais, rich dark blue; Mont Blanc, pure white; Surprise and Zulu, rich purplish red; and Miss Barclay, white, with violet markings.

Westwick Gardens, Norwich. E. G. Davison.

HYBRID LILIES.

Owing to the prominent position of their floral organs, it might be thought that hybrid Lilies would be plentiful. Such, however, is not the case, for there seems a strange fatality about some of the best-marked kinds; for instance, that gorgeous hybrid raised on the other side of the Atlantic between Lilium auratum and L. speciosum, and known as L. Parkmannii, has quite disappeared. It was given a first-class certificate by our Royal Horticultural Society in 1880, and was shown occasionally for some years afterwards, but it is now no longer to be found. Its first appearance in this country created quite a *furore*. That pretty and interesting cross raised at Kew some dozen years or so ago between L. Henryi and L. Brownii Chloraster, and known as L. kewense, seems to have shared the same fate. Crosses between the Chinese L. Hansonii and different Martagons have good constitutions, and are likely to prove reliable garden Lilies.

There are several hybrids between the upright-flowered Lilies, such as L. croceum, L. davuricum and L. elegans, and also among the North American species of the Martagon section. These American-raised forms were distributed as L. Burbankii, but they are a mixed race. One Lily, which, by the way, is only a supposed hybrid, is the grandest of all. This is the Nankeen Lily (L. testaceum), which is one of the finest outdoor Lilies we have. It is an assumed hybrid between L. candidum and L. chalcedonicum, but its origin seems to be unknown.

COLOURED PLATE.

PLATE 1479.

A NEW CULINARY APPLE.

It is not often that a new culinary Apple shown before the fruit and vegetable committee of the Royal Horticultural Society possesses sufficiently good features to secure an award of merit; hence it is worth placing on record any that do gain this coveted distinction. The variety of which a coloured plate is given with this issue is named Padnall Seedling, and was raised by Mr. Roberts of Padnall Hall, Chadwell Heath, Essex. When shown by him last year at the Royal Horticultural Society's meeting at the end of August, it received an award of merit, a deputation from the society having previously visited the trees and reported upon them to the committee. Subsequently we visited Mr. Roberts, who kindly showed us the original tree and also a number of young ones that had been recently grafted. The habit of the tree is robust, and the foliage very large and tough, reminding one greatly in that respect of Peasgood's Nonsuch, but the fruits themselves more resemble Warner's King. They are large and crisp, of good flavour, and in season from early July until mid-September. We regard this as a good and useful addition to the early culinary Apples, and as the young trees, when grafted on Paradise stock, fruit well in their early stages, it should prove a useful variety for planting in private gardens where space is limited.

TREES & SHRUBS.

SOME GOOD AUTUMN-FLOWERING SHRUBS.

Among the numerous shrubby species of Veronica, that known as V. speciosa has appealed most widely to the horticulturist, and in his hands numerous varieties have appeared which exhibit an extensive range of colour and in many instances bear larger inflorescences than the type. Being a native of New Zealand, it is not very hardy in the British Isles, but gives excellent results in the South and West maritime counties and in Ireland. In those counties it is found as a large bush, 2 feet to 4 feet high and sometimes 6 feet in diameter, at all times a good evergreen, and during autumn and winter an excellent flowering shrub. The kind and quality of the soil is not of vital importance; providing climatic conditions are suitable, there are few places where it will not thrive. In more northerly counties the various forms are often grown as pot plants for conservatory decoration, and large specimens are cultivated in tubs for terraces and corridors. About London and in the neighbourhood of other cities and towns they are grown in large quantities by nurserymen and sold for planting in window-boxes or for flowering in dwelling-rooms, and they are familiar objects on the stalls and carts of itinerant plant and flower vendors.

Propagation is easily effected by means of cuttings of young shoots inserted in sandy soil in a close frame during spring or summer. The young plants, if placed in a nursery border and stopped

NEW APPLE PADNALL SEEDLING.

Hudson & Kearns, Ltd Printers, London, S.E.

once or twice, develop into shapely little bushes by the end of the first year and usually produce a fair number of inflorescences, but it is not until they are three or four years old that they really do themselves full justice. It usually happens, if attention is paid to pruning during early life, that little is required afterwards, that little being the removal of the old flower-heads as soon as the flowers are over, so that the production of seeds is prevented. Should the old flowers be left, the seed-vessels are somewhat unsightly as they die off. In some parts of Devonshire and Cornwall small plants are inserted in the stone and soil walls which are so popular in those counties. The plants appear to enjoy the position and grow into fine specimens, which bloom profusely. Whether used in that way or in the shrubbery, they are equally desirable, while some people use them very effectively for informal hedges.

The type is well known by reason of its bluish or purplish flowers, which appear in dense racemes 2 inches to 3 inches long. Of the varieties the following are all very beautiful, and well worth attention either for outdoor or pot culture. Blue Gem, a vigorous shrub of dense, compact habit, with large and conspicuous leaves. The blue flowers are at their best during autumn, though a few continue to open during winter. Autumn Glory is another blue-flowered kind. Of fairly compact growth, it is dwarfer than many varieties, and can be used where a large-growing bush would be out of place. Gauntletti.—This is an exceptionally fine variety, producing spikes, 5 inches or 6 inches long, of pretty pinkish flowers. The foliage is large and richly coloured. Mme. Chrétien.—In this variety the flower-spikes are 4 inches to 5 inches long, and are made up of rich purple flowers. La Seduisante is also a vigorous kind; its flowers are reddish purple. Manx Queen is one of the best of the red-flowered kinds, while another one, which was distributed by Mr. Gauntlett a few years ago under the name of Redruth, also bears rich red blossoms. Then there are other varieties, such as Vulcan (dark reddish purple), Snowflake (white), Purple Queen (a dwarf, purple-flowered kind), Mme. Santin (blush), Monte Rose (rose), and Le Merveilleux (rosy purple), which are all very pretty.

CLIMBING PLANTS ON A GARDEN PILLAR.

It often happens that the most pleasing instances of colour associations are the result of accidental planting, and such is the case depicted in the above illustration, taken in Colonel H. Moore's garden at Higher Woodcombe, Minehead, Somerset. Colonel Moore sends the following note: "The garden pillar was formerly clothed with Clematis montana. Solanum crispum has invaded it from the adjoining wall, and as the pale lilac and white flowers make a pretty contrast, I have allowed them to fight it out together."

CLEMATIS MONTANA AND SOLANUM CRISPUM GROWING TOGETHER ON A GARDEN PILLAR.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

Some of the Newer Roses.

(*Continued from page* 526.)

I must now pass on to deal with individual Roses, and, taking the exhibition varieties first of all, one comes to the Hybrid Perpetuals. They have had one, and only one, addition to their ranks this year, and that is

Coronation (Hugh Dickson, 1913), a huge flower that reminds one of the old Her Majesty, but slightly brighter in its shade of pink. It promises to give us one of the largest of exhibition flowers. It is very vigorous in growth, tall and erect, and I remember noticing that the wood was much smoother than the old Hybrid Perpetual, and very free-flowering for one of this class, when I saw several rows of it at Belmont. It was staged more than once before it obtained the gold medal at Belfast, the National Rose Society's Provincial Show of 1912, and where, I suppose, the keenest competition I ever remember in the class of new seedlings was seen, for many Roses staged in magnificent form at this show were passed over, only to receive the gold medal later, notably, British Queen, Colleen and Mrs. James Lynas, to mention only three that occur to me. Coronation is reminiscent of Frau Karl Druschki in its method of growth, but is much more globular in shape, after the style of Mrs. Cornwallis-West in its flowers. Its size will be bound to make it popular with exhibitors. It is the first Hybrid Perpetual to receive the gold medal since Hugh Dickson was awarded it at the Glasgow Show in 1903, ten years ago. I well remember the sensation it caused, but it seems longer ago than ten years somehow. I wonder whether we shall have to wait another ten years for the next Hybrid Perpetual. I rather expect before then that Hybrid Perpetuals, Hybrid Teas and such-like distinctions will be things of the past. Having mentioned Her Majesty in connection with Coronation—the two names are more or less inseparable—I ought to add that Coronation is not so subject to mildew as Her Majesty, it at all.

George Arends (Hinner, 1910) is one of the so-called pink Druschkis. It is scented, but that is the most one can say for it, and I am discarding it this year, as it is not much good for exhibition and we can do without in the garden.

Geoffrey Henslow (Turner, 1912), a dark-coloured crimson that will be confounded, I am afraid, with the Rose of the same name, a Hybrid Tea. Of the two I prefer the latter, as it is undoubtedly a better colour and does not "blue" so badly.

Gloire de Chedane Guinoisseau (Guinoisseau, 1907).—I think this Rose has enhanced its reputation. It has been in nearly every winning twenty-four, and has undoubtedly come to stay. Every exhibitor should have it. It is hardly a new Rose, but being raised on the Continent is a severe handicap, and it has taken some time for its merits to be recognised. It is a full flower, well and perfectly formed, of a bright shade of crimson, a good grower, and of the easiest culture. The buds are produced in a cluster of four or five as a rule, and must be disbudded accordingly.

I can think of no more Hybrid Perpetuals that can be called exhibition varieties, and so we come to the Hybrid Teas, the class that seems to rake in all varieties, where we find Roses so unlike in character as Irish Fireflame, Mrs. Andrew Carnegie, Queen Mary, Old Gold and Moonlight all labelled Hybrid Teas. Something will have to be done, and that soon, to remedy this state of confusion. Naturally, everyone is looking to the National Rose Society to suggest a remedy and apply it. Here is a great chance for fame for someone to go down to posterity as the man who revised our Rose classification.

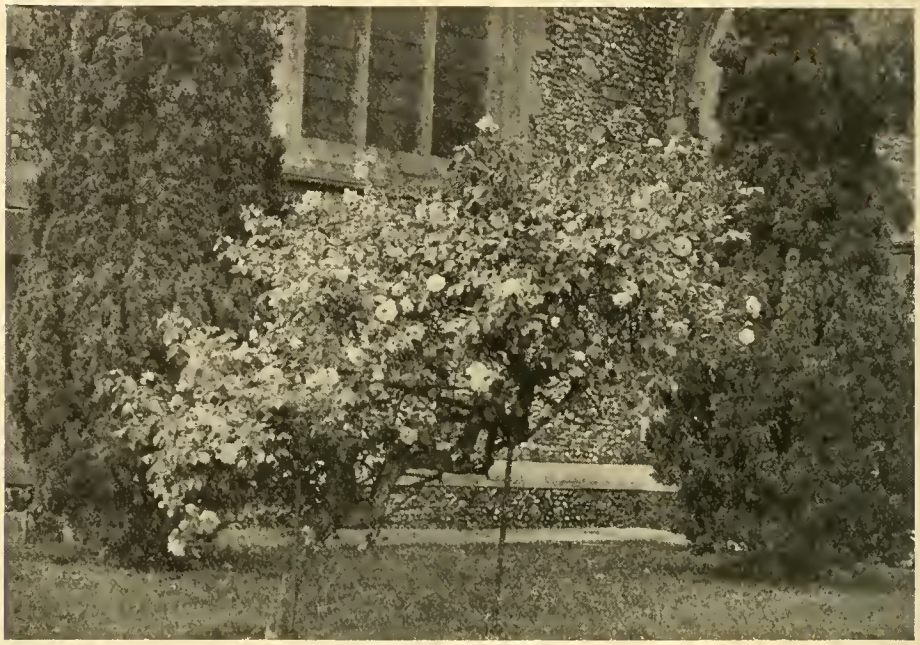
HYBRID TEAS.

Alice Lemon (Hill and Co., 1911).—This stands much where it did, and although I have seen a few flowers of it, it evidently has not got into general cultivation. It is a vigorous grower; colour, flesh, deeper salmon centre; flowers of good pointed shape; not subject to mildew.

British Queen (S. McGredy and Son, 1912).—I have grown this Rose for two years now, so can

speak more definitely of it. At its best it is the most beautiful white Rose that we have, and a well-grown flower will always tell in the exhibition box. At the same time there is more Tea blood in its veins, and it is a long distance away from a scented Frau Karl Druschki. The petals are shorter than that Rose, but it keeps its beautiful shape for a long time and has a great number of petals, though some of them are small. In a word, it is quite distinct, fragrant, very free-flowering and very beautiful. It has a fault—what Rose has not?—and that is in its method of growth. The laterals or side shoots are produced horizontally to the ground, and consequently the flowers are not held upright, somewhat after the style of Mrs. Herbert Stevens; in fact, I have little doubt the two are close relatives. For a Rose that was expensive last year it has been frequently shown, both in twelves and in trebles, especially by the trade. A very good basket of it was shown by the raiser at the autumn show of the National Rose Society, and it actually had the audacity to beat George Dickson in the same class. One would not expect it to do that often. It is a fine garden Rose, very free-flowering, and I can strongly recommend it. It makes a very charming button-hole.

Southampton. HERBERT E. MOLYNEUX.



AN OLD BUSH OF ROSE GLOIRE DE DIJON, WITH IRISH YEWS, IN SOUTH WEALD CHURCHYARD.

ROSES IN CHURCHYARDS.

THE surface of the churchyard is the freehold of the incumbent, whether rector or vicar, so the grass belongs to him; he can make hay of it if he chooses to do so. In days happily gone by, sheep grazed in the churchyard to keep down the grass, and even now in some few cases the state of the churchyard is deplorable; long, rank grass, clumps of nettles and bowed tombstones. But for the most part times have changed, opinions have changed, and with them a change has come over the churchyard. Let us see the reason. God's Acre should not only be kept trim and neat because it is the threshold of God's House, but more so because it is the resting-place of the bodies of those "called to be saints and of the household of God"; the bodies of our dear departed ones. And because there has been, and still is, a growing appreciation of that Article of the Catholic Faith, "I believe in the Communion of Saints," the memory of the Blessed Dead extends from the altar to the churchyard. The grass is kept close cut like a lawn, and flowers are planted in every available space, especially Roses.

ANOTHER VETERAN ROSE BUSH AT SOUTH WEALD. THE DIAMETER OF THIS IS ABOUT 8 FEET, AND THE BUSH HAS BEEN PLANTED OVER THIRTY YEARS.

There are several churchyards in the neighbourhood of the writer wherein Roses grow and flourish, one of these being the beautiful churchyard of St. Peter's, South Weald. The red-tiled roof of the handsome lych-gate is covered from top to bottom with Crimson Rambler; the paved way leading to the main entrance to the church, a noted Norman arch and doorway, is flanked on either side by standard Rose trees, of which some have from time to time been replaced; but the majority, together with the rambler over the gate, are at least twenty-eight years old. Pillar Roses and standards are dotted here and there about the church, as will be seen by the illustrations, and dwarf bushes shelter themselves by the buttresses of the church walls. In addition to Roses, bulbs in spring, Geraniums and others make God's Acre beautiful.

And it has all come to pass in this wise. When, in 1895, Mr. Christopher J. H. Tower of Weald Hall was invited to become the parson's churchwarden, the churchyard was in a more or less neglected condition. Mr. Tower accepted, provided that he should be allowed a free hand in the upkeep of the churchyard, and from that day to this he has had charge of it. A man is specially employed four days a week; the sexton has no hand in it. The whole of the financial expense is borne by Mr. Tower with the help of his neighbours. Surely all who help in this labour of love must be glad to see how well the plants and flowers respond to the care bestowed, and the parishioners proud to know that their own churchyard is now one of the most beautiful in the county of Essex. J. H. PEMBERTON.

GARDENING FOR BEGINNERS.

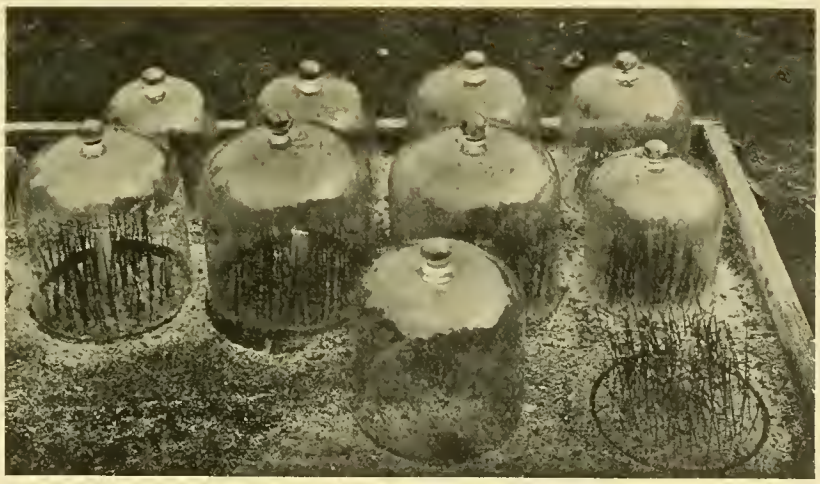
ROOTING CUTTINGS UNDER BELL-GLASSES.

COMPARATIVELY speaking, there are very few hardy shrubs which cannot be multiplied by means of cuttings. It is not surprising, however, considering the great variety of shrubs cultivated in our gardens, that several different methods are necessary. Quite soft cuttings made of the young shoots of some shrubs will root during July in a propagating-frame with plenty of artificial heat. During August and early September cuttings made of the half-ripened wood do admirably in a close frame, preferably with a little bottom-heat. A third and very easy means of increasing many of our most popular shrubs is the method illustrated. October is about the best time to insert cuttings under bell-glasses, as at this season the shoots made during the previous summer are fairly hard or ripe, and will make the best plants.

Position for the Bell-Glasses.—Choose a sheltered position under a fence or hedge, protected from the sun during the middle of the day, yet one where the young plants as soon as rooted obtain plenty of light. The soil should be well drained, light and sandy; if at all heavy, a raised bed of soil, kept in position with boards as shown in the illustration, may be prepared. Place in the bottom 3 inches or rather more of rubble or clinkers for drainage; then fill up with 4 inches to 5 inches of light, prepared soil consisting of two parts sandy loam, one part peat, one part leaf-mould and one part coarse sand. Make the whole firm and level the surface, spreading over it a thin layer of silver sand, which will trickle in the holes round the cuttings as they are inserted. For convenience of inspection and attention the prepared bed should not be too wide; a sufficient width to take three rows of bell-glasses is ample. The bell-glasses vary in size from a diameter at the bottom of 4 inches to a foot. The size of the cuttings must of necessity vary in length and thickness according to the nature of the shrub, whether slender or stout in growth. An average length will be from 3 inches to 6 inches, inserting about one-third of this length in the soil. Whenever possible, the cuttings should be made with a fragment of the old wood attached to the base; this is familiarly termed a "heel." In most cases it is desirable to cut off 1 inch or 2 inches at the top of the shoot, the growth being tender or soft and liable to damp off in winter. With evergreen shrubs this is not so important, the leaves tending to keep the shoots fresh. Before dibbling in the cuttings, the bell-glass should be placed on the prepared bed and pressed in the sand to mark the outside of the patch of cuttings. This is plainly shown in the illustration. The number of cuttings inserted under a bell-glass will depend on the size of the cuttings and the amount of ground covered by the bell-glass. Under a bell-glass 4 inches to 5 inches across it is possible to insert forty to fifty Erica cuttings, as these are only 1 inch to 1½ inches long. A bell-glass a foot across will cover fifty cuttings of Tea Roses. It is not necessary to limit each bell-glass to one kind of cutting. Choose those which are similar in size and which take about the same time to root. Label each one carefully, and put the date when inserted on the label for reference. To prevent the cuttings flagging, roll them in a wet cloth as soon as they are cut off the parent bush; this will be found more convenient than placing them in water. The cloches used so much in French gardening will answer the same purpose as the bell-glasses; hand-lights may also be used. As it will be desirable to afford a little protection to the cuttings during severe frosts, the bell-glasses should be conveniently placed so that they may be covered with Bracken or the old, dry tops of Michaelmas Daisies. The cuttings should be well watered as soon as inserted with a fine-rosed watering-pot to settle the sand round the cuttings. Further watering will probably not be necessary more than once a month till the end of January.

CUTTINGS OF OLEARIA HAASTII JUST INSERTED AND READY TO BE COVERED BY THE BELL-GLASS.

Cuttings of Shrubs to Insert Now.—Olearia Haastii (the Daisy Bush), shown in the first illustration—this is one of the best flowering shrubs for the small town and suburban garden; Berberis stenophylla (the Hybrid Barberry); B. Darwinii, a Chilian species with orange-coloured flowers; Laurustinus or Viburnum Tinus, Veronica Traversii, the double Furze or Gorse, the Rosemary (Rosmarinus officinalis), Lavender, Cotton Lavender (Santolina Chamæcyparissus), hardy Heaths, the several varieties of Cypress, Lawson's Cypress, Yews, Tea Roses, Brooms, Box and Escallonias.



CUTTINGS OF VARIOUS SHRUBS IN SPECIALLY-PREPARED SOIL AND PLACED UNDER BELL-GLASSES.

HINTS ON WINTERING GREENHOUSE BULBS.

The greenhouse bulbs that I am now particularly referring to are Achimenes, tuberous Begonias and Gloxinias. In many instances the bulbs and tubers are left in the pots and pans in odd places on the stages or shelves until the latter part of the year before any attempt is made to store them. Curiously enough, the haphazard way of treating them up to this point has been quite satisfactory, as they have been so gradually rested. Afterwards, however, owing to mistakes in storing, the tubers and bulbs have rotted.

It is wrong to place the bulbs under stages close to the hot-water pipes. They may be stored under staging if kept 2 feet away from the pipes, and also if a board is placed between them and the pipes; furthermore, if drip can be avoided. A corner position on the stage itself is a very good one in which to winter the plants, bulbs and tubers. Very few will be lost. Owing to lack of space the tubers are often taken out of the soil and stored close together in boxes. This plan answers if shallow boxes and sand in which to store the tubers are used. Achimenes should be left in their own soil until next February, when it will be advisable to take them out and repot or repan them again.

Shamrock.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Flower-Beds.—By this date all flower-beds should be filled with their occupants for making a spring show, and all surplus and small bulbs may be planted either in the borders or in the wild garden, as may be deemed desirable.

Chrysanthemums.—Many of the old border Pompon varieties are much more hardy than the newer types, and may be left out in the ground all the winter, at least in most situations, but the latter, to make quite sure of them, should be lifted and placed in a frame to ensure good stock in the spring. No heat is necessary, but just sufficient covering to keep them moderately dry, when they are less liable to injury by frost. Needless to add, they should not be lifted till the flowering period is over, and even then they ought not to be cut down too low for a time, or the stock is much weakened by bleeding.

Fuchsias.—The different varieties of hardy Fuchsias should be protected by giving them a covering of very light soil, leaf-mould or ashes over the crowns of the plants.

The Pleasure Grounds.

Acer californica aurea.—This is one of the most effective golden foliage plants in a bed that I know. Though not such a robust-growing plant as the Silver Acer, it is much more effective, especially where there are many dark green trees. If cut back fairly hard in the spring, it retains its colour (golden yellow) till quite late in the season.

Tamarix hispida æstivalis makes a fine bed, and when established throws up grand spikes or stems of flower, which remind one somewhat of Pampas Grass, except that the colour is a delicate mauve. To get the best results this plant also wants cutting hard back early in the spring, when it will flower well during July, August and September.

Berberis Darwinii and B. stenophylla are two plants which are hard to beat for a spring effect. Single plants in the borders are very fine, but large beds that may be seen from a distance are even better. The latter variety, with its long, arching racemes of bloom, is probably the best of the two.

Viburnum plicatum and V. Opulus are two very useful flowering shrubs, and can hardly be placed in a wrong position. The latter needs careful pruning (after blooming) to keep it in bounds, and both of them add a certain amount of colour to the shrubberies during the autumn when the leaves are turning colour.

Plants Under Glass.

Begonia Gloire de Lorraine and its various types that are well advanced in bloom should be placed in a somewhat drier house with a temperature of 50° to 55° at night. Keep them moving by giving weak liquid manure, and they will keep in good condition for months. Give more space to the later plants as they require it, and practically the whole of them may be allowed to flower now. They should be in real good form before Christmas.

Bouvardias developing their flower-buds must be given a nice, even temperature of about fifty-five to sixty degrees, with just a suspicion of moisture in the atmosphere. Under such treatment young plants should go on blooming throughout the winter, and provide plenty of flowers for the table and button-holes. This is a plant that has had to give way in many places to the winter-blooming Carnation, but even now it is well worth looking after.

The Kitchen Garden.

Celery.—Even the latest rows of Celery should be finished earthing by now, or the frost will injure the leaves. Make the banks very steep where the soil is heavy, so as to throw off the water as much as possible. When digging Celery for the house, be sure to burn all outside leaves and roots, so as to counteract as much as possible the depredations of the mining maggot during the coming season; also, the soil should be carefully levelled as digging proceeds, so as to leave the ground in a tidy condition.

Artichokes that have died down may be lifted, sorting over the tubers and storing those together that are of serviceable size, reserving the medium-sized ones for seed, while the small ones may be given to the pigs. In some localities these are very late in dying down, and lifting should be delayed till frost kills the tops.

Fruits Under Glass.

Strawberries for Forcing.—If not already under cover, the early batches should be placed in frames at once, preferably with ashes between the pots, thus preventing them getting cracked by frost. Plenty of air should be given on all occasions, it being only necessary to keep the heavy rains from them. When frames are not available, the plants may be laid on their sides under a wall, placing ashes or leaves between the layers of pots to keep them in position and to prevent cracking of the pots, as advised for the frames.

Hardy Fruit.

Fruit Trees: Selection of Varieties for Planting.—Before planting any number of trees in a district where one has not had much experience, it is advisable to make enquiries as to the varieties which do best, and plant these in sufficient quantities to secure a crop, adding others more or less for trial purposes. There are, however, some varieties that are fairly good croppers in nearly all districts, and in planting Apples for cooking purposes one cannot, or should not, overlook the merits of Ecklinville, New Hawthornden, Lord Suffield, Warner's King, Beauty of Kent, Blenheim Orange, Bramley's Seedling, Lane's Prince Albert, Northern Greening and Newton Wonder, while the old variety, Tom Putt, is one of the best croppers with me, and is not at all a bad-flavoured variety for use just now. Lane's Prince Albert being perhaps the heaviest cropper year in and year out.

Dessert Apples are always in demand, and though in the early part of the season we get some good-coloured fruits, the quality and flavour in some of them are not all we desire. James Grieve is splendid, but it must not be left too long, or it will be found soft and insipid. Benonii is one of the best early Apples, and deserves to be very widely known; it comes in during September. King Harry is also good. Rival proves itself to be of good colour, flavour and keeping quality, and is not a bad cropper on cordons. Duchess' Favourite and King of the Pippins are the two most consistent croppers in this district, while Cox's Orange, Cox's Pomona, Ribston Pippin, Worcester Pearmain and Charles Ross can be relied upon to give a fair sprinkling of fruit each season.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Bulb-Planting.—This work should now be finished without delay, more especially bulbous Irises, as they often decay if left out of the ground after October.

Lifting Chrysanthemum Stools.—Chrysanthemums have flowered extra well this autumn. They are, however, pretty well over now, and stools for stock should be secured. Cut the plants down to within 6 inches of the ground, lift with a digging fork and box them up, working some light, rich soil in among the roots. Give the boxes a good watering, and after the water has settled give the whole a good sprinkling with soot to ward off the attacks of slugs. Place the boxes in a cool frame or pit, and give plenty of air on all favourable occasions. Our stock here (all of which I can recommend) consists of the following varieties: All the members of the Massé family, Lady Mary Hope, Polly, Carrie, Beacon, Dainty, Lily, Mrs. A. Thomson, J. C. Grieve, Abercorn Beauty, George Wermig, Goacher's Crimson, White St. Croutts, Little Bob and Rosie.

Herbaceous Plants.—This is probably the best season of the year either for making new plantations or for making alterations among existing stock. In the case of new plantations, the beds or borders should first be trenched at least two spades deep, and a good dressing of manure should be dug in.

The Rock Garden.

Building.—One should always keep in mind that what is wanted is not a display of stones, but a suitable environment for a particular class of plants. While all appearance of stiffness and uniformity should be avoided, yet certain guiding principles must constantly be kept in view. The first of these is to form pockets (as diverse in form as possible) that will hold a sufficiency of soil, and that will catch and hold the moisture supplied to the plant, whether by natural or artificial means. There is something radically wrong with the building of rockwork which requires sprinklers playing on it most of the summer. The bigger stones should mostly be placed in the background, but a few of these should be mixed with the smaller stones to break the monotony. Embed the stones so firmly in the ground that one can stand upon them for purposes of planting, top-dressing, weeding and admiring.

The Rose Garden.

Mulching.—Most experts now condemn the old practice of giving Roses a winter mulching with solid manure, as it keeps the roots in a cold, wet condition. A common practice now is to draw a little dry earth up to the necks of the plants, so as to run off the winter rains, and then to give a dressing of well-rotted manure in spring. My own practice, which produces excellent results, is to mulch with half-decayed leaves. The rougher part of these is removed in spring, when the beds generally get a dressing of bone-meal, soot and ground lime previous to their being forked over.

Plants Under Glass.

Late Bulbs.—If any bulbs remain unpotted, they should be potted up at once and placed in the plunge. Remove earlier batches from the plunging material after they have been in it about six weeks, and place them in a cool frame or pit.

Lily of the Valley.—This is always acceptable, especially in the dull days of winter. Strong, retarded crowns give the best results. Pot them up rather thickly in 5-inch pots, the crowns just showing above the ground. Keep them in a cool pit, and bring them into the forcing-house in batches as required. Plunge the pots in a brisk bottom-heat, and keep each pot covered with an inverted pot of the same size till the plants have made about two inches of growth. Never allow them to lack for water at the root, and spray with tepid water twice daily. They should be fit for use in from twenty to thirty days if treated thus.

Fruits Under Glass.

Late Grapes.—Few things tax the Grape-grower's skill more than the maintaining of his late Grapes in really good condition throughout the dull, damp autumn days. To maintain a dry, buoyant atmosphere at a comparatively low temperature is the crux of the matter, and nothing but close observation and attention will secure the desired end; but bunches laid on the table with symmetry of bunch and bloom of berry unimpaired will repay all the trouble.

The Hardy Fruit Garden.

Planting Fruit Trees.—It is now universally admitted that, except in the case of a very few highly-favoured localities, the cultivator's constant aim should be to keep the roots of his trees near the surface, where light, air and heat will have a beneficial influence upon them. It is when the roots are allowed to penetrate into the cold, wet, or, it may be, actually poisonous subsoil that canker and other diseases attack the trees. Most good cultivators now plant the trees on the original surface and cover the roots with about six inches of fresh loam, mulching the surface with half-decayed farmyard manure immediately after planting. If shallow pits are dug out for the trees, they should be made quite flat, and some fresh loam be worked in among the roots. Tread the ground firm and mulch as indicated. Stake and tie standards, and nail wall trees promptly. A piece of coarse cloth should be placed round the stem of the tree to prevent the ligature from damaging the bark through friction.

The Vegetable Garden.

Rhubarb.—Where an early supply of Rhubarb is wanted, a few crowns should be placed in heat now.

Manuring.—Advantage should be taken of dry weather or frosty mornings to wheel manure on to vacant quarters which are to be dug, and digging and trenching should be pushed forward, especially in districts where the winters are usually severe and long. CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

THE KITCHEN GARDEN.

SOME UNCOMMON VEGETABLES.

Hints on Cooking and Serving.

THE conservatism of the average Briton in matters of food is notorious, and my object in writing these few notes is to stir him up to the fact that there are certain vegetables of which he might make more use, and, incidentally, that there are a good many that might be more satisfactorily cooked and served than they are. I am not a vegetarian, but I possess a keen appreciation of the properties of good vegetables, both from the points of view of palate and stomach, and I am one of those who consider the vegetable course that one gets in the best hotels and restaurants a blessed institution.

An often overlooked point, too, is that a good number of vegetables are by no means ill eating when cold, some of them making an excellent salad served with cold meat. In this category come Peas, Broad Beans (young), Globe Artichokes and young early Carrots, the last delicious. There is no reason why any of those I have named should be wasted after having been served at a hot meal. In a recent conversation with a large hotel-keeper, he was telling me he could not get his guests to eat Globe Artichokes, and he was not surprised, as, in his opinion, there was hardly any food in them. Now, Globe Artichokes are a specially favourite vegetable of mine, and those who grow them well will know that there is plenty to "bite at" in them if devoured in a sensible way, and for flavour they are very hard to beat.

A vegetable that I seldom come across, save at my own table, is the little green-seeded French Haricot, sold by Sutton and Sons under the name of Green Gem. These Haricots, when shelled out while young and cooked with a small Onion, make a most appetising dish, and everyone who tastes them here seems to like them. These also should come under my little list of things that are good when cold. Celeriac, or Turnip-rooted Celery, is seldom seen, but here we find it good both hot and cold; the flavour to me is reminiscent of both Celery and Parsnip, and, as it is so easily cultivated and does not require the labour and space of ordinary Celery, I do not understand why it is not more grown and eaten.

The Cooking and Serving of a number of our vegetables in this country leave much to be desired. For instance, when I go into the garden and cut a dainty, snow white little Cauliflower, I strongly object to having it served up with a smothering dose of sickly and insipid melted butter; and I should like to know why the average cook, as soon as she (or he) has cooked a few nice young Beetroots, at once slices them and plunges them into vinegar, making a pickle of what ought to be a dainty dish with a refreshing and appetising flavour quite its own. I prefer to slice my Beetroot myself, and eat it without vinegar or any such futile adjunct; but, of course, it must be quite fresh, and is of no use the second day, while the vinegar-preserved article may be kept going for a week or more—but in any case, none of it for me.

Then there is the Custard Marrow, most delicately flavoured of its race; it should be cut young and small, and cooked whole with the rind on, the latter being removed after cooking. I wonder if anyone has tried it thus, dressed with a little cream. It is a dish fit for an epicure, and should be tried as a vegetable course, alone. Harking back to Beetroot, there is a dish known on the other side of the Atlantic as "Beets"; this is simply the small round or Turnip-rooted variety cooked young, in quantity, and served hot, and in this form it is by no means to be despised. A pretty good test of a cook is the way a Cabbage is cooked and served. Notwithstanding all oral and written instruction, I regret to say that a large proportion of cooks will send a Cabbage to table a shapeless mass of hotch-potch; your well-regulated cook will carefully tie it before it goes into the saucepan, and, after it is done just to a turn, will serve it up whole and undishevelled, a delight both to the eye and the palate.

Rye. F. Herbert Chapman.

THE CULTURE OF POTATOES

At the recent Fruit Congress held at Kendal, Mr. G. P. Berry lectured on "The Cultivation of Potatoes." Mr. Berry said that the want of lime in garden and other soils was disastrous to Potato-growing. The Potato was a plant which loved sun and air. Nothing enabled the gardener and allotment-holder to resist attacks of disease in Potatoes so much as wide planting. He recommended growers to have the quality of their soil chemically tested. In manuring, burnt clay applied to some soils, and wood-ash to others, were desirable. As manure for early Potatoes (recommended by Professor Wallace), Mr. Berry gave the following: Eighteen to twenty tons of ordinary farmyard manure and chemical materials at the following rate—6cwt. of sulphate of ammonia, 6cwt. of superphosphate (25 per cent. soluble), 2cwt. of potash salts (35 per cent. solution), 1cwt. of guano containing 6 per cent. ammonia and 40 per cent. of phosphate. This should be applied at the rate of 12cwt. per acre. In planting, care should be exercised. Very small Potatoes should not be used as seed, and a Potato had a tendency to reproduce the characteristics of its parent plant. Having selected the Potato, whether first early or second early, it was found advantageous to box the seed Potatoes. It appeared that certain buds on the Potato tuber were in more direct contact with the stored-up material within than others. Better results were got where a Potato produced two or three good strong stems than when it produced seven or eight weaker stems. To facilitate the decay of each tuber, a small piece should be cut off the base end of the tuber. In gardens and in allotments it paid better in almost every instance to plant Potatoes whole. During the season the ground should be kept as loose and porous as possible; and, in market-gardening especially, the heavier the soil the higher should the stitches be made. As to storing Potatoes, it was best done in sheds and boxes, in which the early varieties did not run the risk of heating. Mr. Seaton of Leeds, who was asked to speak, said that from the agriculturist's point of view the question of bulk was made the great consideration; the farmer did not concern himself much with quality. In Yorkshire they did not grow Potatoes of the same eating quality as those grown on the Dunbar soils. He knew of a tavern in London where he could always get good Potatoes at the table—Potatoes with a peculiar close, starchy look outside; a Potato which was firm and dry, with a flavour which would satisfy an epicure. He could not ascertain whether that excellence lay in the cooking or in the variety; it might be in soil conditions or in climatic conditions. Many important points in connection with Potatoes were awaiting solution. The question of liming, for example, was in its infancy, and, as Mr. Berry had said, was being revolutionised. He would, however, warn his hearers that lime seemed to have a tendency to produce scab. As to the use of muriate of potash, it had been condemned as producing waxy Potatoes; but he suggested that that was when a low-grade muriate of potash was used, because it contained a large proportion of common salt.

TRIALS AT WISLEY IN 1914-15.

The Royal Horticultural Society have arranged for the following trials to be held at Wisley. Everything sent for trial must be named, and the name and address of the sender attached, together with the name of the raiser and introducer as far as known.

Melons.—Ten seeds of each variety to be sent in February.

Herbaceous Phloxes.—Three plants of each to be sent in February.

Early-Flowering Outdoor Chrysanthemums.—Three plants of each to be sent in March.

Pentstemons.—Three plants of each to be sent in March.

Perennial Sunflowers (including Heleniums and Rudbeckias).—Three plants of each to be sent in February.

Asters (French, German, or China).—Seed to be sent in February.

Broccoli.—One packet of seed of each to be sent in February.

French Beans (Outdoor).—One pint of seed of each to be sent in March.

Tulips.—In view of the confusion existing in the nomenclature of Tulips, the Council of the Royal Horticultural Society have been requested to draw up a list of synonyms, and have consented to do so with the co-operation of the Dutch growers. It is accordingly proposed to plant this autumn at Wisley (where Tulips do so well) as representative a collection of all classes and descriptions of Tulips as can be got together. Growers in Holland are asked to send over their bulbs to be grown side by side with those from English growers. Five bulbs of each variety should be sent during this October. When they are in bloom, a joint committee of Dutch and English Tulip specialists will be invited to meet at Wisley to determine the correct nomenclature. A synonymic list will then be prepared and issued. It is important that all bulbs sent should bear the name under which they are known or sent out by the sender, and also an indication of their type, as early, late, Darwin, Parrot, bizarres, byblœmens, roses, &c. If sent by post, they should be addressed to The Superintendent, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey; if sent by rail, to The Superintendent, Royal Horticultural Society's Gardens, Wisley, Horsley Station (London and South Western Railway), with advice by post to the Superintendent.

Horticultural Sundries.—The Council will continue their trial of horticultural sundries in 1914 under the scheme introduced in October, 1912. The system then adopted has proved admirable after twelve months' practical test, and sundriesmen are again invited to send their specialities (not more than three articles in any one year). Full particulars, with entry form, can be obtained from the Secretary, Royal Horticultural Society, Vincent Square, S.W., upon receipt of a stamped addressed envelope.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

OLD-FASHIONED ANNUALS FOR AN EAST BORDER (*Sunflower*).—The following kinds of annuals will thrive well in the east border, namely, Mignonette, Stocks, Asters, Phlox Drummondii, Marigolds, Candytuft, Lupines, Larkspurs, Clarkias, Linum rubrum, Coreopsis, Virginian Stock and Sweet Peas. Seeds of the Stocks and Asters must be sown in a frame and the resultant plants put out in May. Seeds of the other kinds should be sown in the open borders early in May. The Virginian Stock makes a nice edging, and the Mignonette looks well if grown in clumps behind it.

FLOWERS FOR AN ISLAND GARDEN (*M. L. W.*).—The following kinds of climbing Roses are likely to thrive on the island you describe: Dorothy Perkins, Crimson Rambler, Auguste Barbier and Rosa arvensis flore pleno. You might also secure a good effect by planting a group of the Japanese Rose, Rosa rugosa. Both golden and red stemmed Willows will give satisfactory results, and will probably be more successful than the red-stemmed Dogwood. A few other shrubs for decorative effect are double-flowered Gorse, common Broom, Berberis stenophylla and Hypericum calycinum, the latter for the banks or margins. Another showy shrub of rambling habit is the double-flowered Blackberry, Rubus ulmifolius flore pleno. The common double Daffodil will be suitable for planting as you describe, while Emperor will also grow on heavy soil.

IRIS KÆMPFERI (*L. B.*).—The best of all times in the year for transplanting this Iris is just prior to the commencement of its new growth, say, mid-March to mid-April. As the new quarters are not yet ready, leave the plants where they are for the winter, unless the old position is flooded with water, and divide and replant in spring. It is a mistake to transplant big clumps of this or any Iris intact, and not a few failures result therefrom. Hence, in conjunction with transplanting, there should always be a division of the rootstock. Moisture within reach of the root-fibres or semi-saturation in summer-time or during growth is quite good for the plants, while those plants that are wholly or partially submerged in winter are calculated sooner or later to perish as the result. Conversely, a condition of much dryness in winter-time would appear abhorrent to the plants. In some instances it might prove fatal; in all, decidedly weakening in effect.

HERBACEOUS BORDER (*J. W. M.*).—It would have greatly assisted matters had you stated the nature of the soil. Generally speaking, however, Hop Manure is regarded as a good substitute for organic manures, though in your case it might require a liberal application. You should in conjunction with it employ a good dressing of lime, say, two bushels per rod of ground, to be forked in as the trenching of the border proceeds. The burnt ash should also be well incorporated with the soil. Assuming that the Desmodium is a comparatively youthful plant, it may be transplanted as soon as the flowering is over, and in your district would soon re-establish itself. Spring, with returning growth, would, however, be a better time for older examples, and particularly so where a clay soil exists. March, or with the first signs of returning growth, would be the best time to divide the Gunnera, for which a bed, 2 feet or 3 feet in depth, of rich loamy soil should be prepared. In replanting, your best guide will be the buried depth of the old plant, though it is not advisable to place the crown much below the surface of the soil.

PERENNIAL BORDER (*Watford*).—Your idea of "trenching as you go," and, we presume, of planting, too, is wrong, and will not lead to good results, more particularly since you now have a desire to arrange the border for "effect." That being so, we should advise that you clear the border of its present occupants—a three years' tenure of the soil is not a bad one—heel them in in any convenient spot, and then thoroughly trench and manure the ground in readiness for planting later on. Then, if you prepare a working plan, marking on it the position of each plant group, you would in all probability obtain the effect which you desire. In this connection it would help you considerably if you obtained "The Hardy Flower Book," by E. H. Jenkins, and study the plans therein given, together with the chapters on planting for effect. In such case the planting might be deferred till March, the border having in the meantime been trenched, rested, and also refreshed and aerated by frost, sun and rain. By these means the seedlings might be protected in pits or frames till required for use. It is highly probable, too, that the Chrysanthemums in flower and Pentstemon seedlings if put out in October would suffer from frost, and, of the former, in any case you should hold plants in reserve in a frame, since they are not only unreliable in severe winters, but young plants invariably give the better results. The Gladioli and Hyacinthus candicans should be lifted at once, gradually dried off, and stored in a frost-proof place till March, when they may be replanted. The bulbs of these plants may continue to give good results for years if treated annually as advised. You need have no misgivings about the manure. Sink a shallow pit in some out-of-the-way corner and place it therein. By covering it with the excavated soil—a most effectual deodoriser in such cases—all objectionable smell would be prevented.

TREES AND SHRUBS.

PYRACANTHA LALANDI NOT FRUITING (*E. A. P.*).—It is impossible to give a reason for your plant of Pyracantha Lalandi failing to fruit. If it is growing freely, there is no reason to give it manure; but if the shoots appear to be weak and the foliage thin and pale in colour, manure may do good. Do not overprune it for a time, and perhaps, as the wood gets older, fruit will be borne. There is a possibility that your plant was raised from seed and the fruiting plants of which you speak from layers, which would account for the earlier flowering and fruiting of the smaller plants.

LOPPING ELMS (*M. P. S.*).—There is no test by which you may ascertain when old Elm trees require lopping; but if you observe decayed places about the branches, you may safely regard them as needing attention. Branches which are quite sound, however, have an unaccountable way of breaking off not only during wind, but on quite calm days; and when old Elms occur near houses, or in places where people are in the habit of congregating, it is much the safest plan to lighten all the heavy branches. Trees which have dead tops may often be rejuvenated by removing the dead portions to places where the wood is quite sound, new shoots succeeding the operation.

PRUNING CLEMATISES (*J. W. J.*).—The large-flowered Clematis is Ville de Lyon, and the small-flowered one is Viticella. Both kinds may be cut back to within two or three buds of the base of the previous year's shoots in February each year. If cut back less severely, the plants are apt to become bare at the bottom, owing to the upper buds breaking away and the lower ones remaining dormant. Should you wish to extend the plants, however, you may leave eight or nine of the lower buds and bend the plants into a horizontal position, which will induce more buds to break into growth. Should such a course be adopted, care must be taken to prevent the shoots becoming entangled.

HEATH FOR NAME AND TREATMENT (*Constant Reader*).—The specimen sent for name is a richly-coloured variety of the common Ling (Calluna vulgaris rubra). We are afraid little can be done to improve the old plant. A much better plan will be to propagate a stock of young plants from the old one by inserting cuttings now. Make the cuttings three-quarters of an inch to 1 inch long, and insert fairly thickly, in pots of light, sandy soil made up of two parts peat and one part sand. Place in a close frame, in a handlight or under a bell-glass, till rooted. They should make nice plants, which will flower the second year from cuttings. The common Laurel may be clipped at any time from April to August.

TREES TO MAKE A QUICK-GROWING SHELTER (*Scot*).—You cannot do better than plant Poplars in the position you describe. The one grown in the nurseries as the Black Italian Poplar is the most suitable one for the purpose. These can be procured up to 15 feet in height, but possibly those 8 feet to 10 feet high will be more suitable for your windswept land. Purchase plants with strong, sturdy trunks which are capable of supporting their own weight, rather than those with slender trunks, which will continually need attention. It is possible that quite strong trees will require staking until they are well established, and it will be advisable when planting to allow the heads to fall slightly towards the wind. Early planting will be advantageous.

THE GREENHOUSE.

VINES IN GREENHOUSE (*S. M. I.*).—Keep the greenhouse as cool and airy as you can during the winter consistent with the welfare of the Geraniums. Let the Vines break naturally into growth in the spring without any forcing and applying extra heat. Do not overcrowd the Vines with foliage during the summer. The branches of the Vines on which the bunches of Grapes appear (and which are termed spurs) should not be nearer together than 15 inches (we mean 15 inches between the spurs on either side). As soon as each spur in spring has made a growth of three small leaves beyond the leaf opposite to which the bunch is situated, let the spur be stopped by pinching it off with the finger and thumb immediately above the third small leaf higher than that opposite to which the bunch is on. Subsequent young growths will issue from each spur in the course of the summer. Let each of these, no matter where situated, be pinched back at the top of the third young leaf as soon as it is formed. This effectively prevents overcrowding of the foliage of the Vines during the summer, giving the spurs a chance to develop and ripen their growth for the production of a good crop the following year. Do not give any front air to your Vines before the middle of April. The temperature up till then may be regulated by top or back ventilation. As the heat of the summer advances, more air must be given to the front and back. With regard to the border, it must always be kept free from weeds. Fork into the border now, 4 inches deep, bone-meal and lime at the rate of one quart of each to the square yard. Cover over your border at the end of this month with littery straw to the depth of 4 inches. Take this covering off at the end of April, give the border a good soaking of manure-water at the same time, and cover over a few days afterwards with a layer, 4 inches deep, of well-decomposed farmyard or stable manure as a mulch for the summer. Water as you have done before. Good results should follow this treatment.

ROSE GARDEN.

ROSES DESTROYED BY CATERPILLARS (*A Subscriber*).—We think if you were to well spray the Roses with Carlton Arsenate of Lead Paste you would check the trouble. It is obtainable from Messrs. W. Voss and Co., Millwall, London, E. Dip the roots in the solution, and, when planted, well spray the branches and continue the spraying throughout the summer at intervals of ten or twelve days.

ROSES FOR FLORISTS' WORK (*G. S.*).—Mrs. Herbert Stevens would be a valuable white, and you should also plant some Frau Karl Druschki, also Yvonne Rabier for sprays. A dozen good kinds to plant in quantity for your business would be Lady Hillingdon, Lady Pirrie, Mme. Abel Chatenay, Mrs. Alfred Tate, Duchess of Wellington, General Macarthur, Lady Roberts, Mme. Ravary, Sunburst, Florence H. Veitch, Chateau de Clos Vougeot and Lady Ashtown. Have them all on the seedling Briar stock.

BUDDING BRIARS IN TUBS (*Reader*).—While we do not say the operation would be impossible, we strongly advise you not to attempt it. The standard Briar requires a deal of looking after when potted up or planted in tubs. It would be much better for you to plant them in the garden in rows 3 feet apart and about a foot apart in the rows. Fifteen good varieties for exhibition would be Mrs. John Laing, Frau Karl Druschki, Dean Hole, Lyon Rose, Caroline Testout, J. B. Clark, Hugh Dickson, Margaret, Lady Ashtown, Mme. Melanie Soupert, Mrs. George Shawyer, Mrs. Foley Hobbs, Suzanne M. Rodocanachi, Mrs. W. J. Grant and Mayflower. None of the kinds you name is really good as an exhibition flower.

ROSES FOR BEDDING IN A SEMI-SHADY POSITION (*W. J. B.*).—We are very pleased to help you in making a selection. To have Roses in bloom in August and September they must be varieties that also bloom in June and July; but as you are not in residence during these latter months, you could instruct your gardener to remove the earlier buds, as by doing so you would considerably help the second crop to bloom. Good varieties of the colours you name and avoiding those you have would be: Pinks—Mme. Leon Pain, Gustav Grunerwald and Lady Ashtown. Reds—Lady Battersea, General Macarthur and Lieutenant Chaure. White or blush—Augustine Guinoisseau, La Tosca and Molly Sharman Crawford. Yellows—Mme. Ravary, Marie van Houtte and Mrs. Aaron Ward.

ROSES WITH SUBSTANTIAL BLOOMS FOR EXHIBITION (*Viola*).—We quite see your difficulty, and think that the list given below will meet your requirements. Hybrid Perpetuals.—Alfred Colomb, Charles Lefebvre, Comte de Raimbaud, Dr. Andry, Geoffrey Henslow, Hugh Dickson, Louis van Houtte, Mrs. John Laing and Suzanne M. Rodocanachi. Hybrid Teas.—Alice Lemon, Colonel Leclerc, Countess of Caledon, Countess of Shaftesbury, Dean Hole, Dr. O'Donel Browne, Duchess of Normandy, Duchess of Westminster, Earl of Warwick, Entente Cordiale, Ferniehurst, Florence Pemberton, Frau Ober, Piecq, F. R. Patzer, George C. Waud, Geoffrey Henslow, George Dickson, J. B. Clark, Joakheer J. L. Mock, Lady Barham, Mabel Drew, Mme. Jules Bouche, Margaret, Mayflower, Mrs. C. West, Mrs. George Shawyer, Mrs. Wallace H. Rowe, Oberhöfgartner Terks, Papa Lambert, Queen of Spain, St. Helena and Sunburst.

MISCELLANEOUS.

NAMES OF PLANTS.—*Bourneville.*—Rose Eugene Furst. —— *W. C., County Antrim.*—Leycesteria formosa. —— *G. W., Wantage.*—Phygelius capensis, or Cape Figwort. —— *A. R., Jersey.*—Sollya heterophylla, Erica arborea, Elæagnus orientalis, Paliurus australis (Christ's Thorn). —— *A. A. B., Swindon.*—Lilium speciosum. —— *Forfar.*—Cannot name from leaves only. —— *Ignoramus.*—Swainsona galegifolia. Should *not* be cut down, but allowed to grow. It is an Australian plant and has red flowers. —— *Mrs. D., Salisbury.*—1, Aster cordifolius; 2, A. multiflorus; 3, A. Novæ-Angliæ variety; 4, A. Amellus variety.

NAMES OF FRUIT.—*Major K.*—A. Bismarck; B, Northern Greening. —— *G. W., Wantage.*—Apples too poor to name. Pear, Marie Guise. —— *W. B.*—Rambour Frone. —— *D. T., Wolverton.*—1, Stoke Pippin; 2, Lady Henniker. —— *A. T. U., Reigate.*—1, Blenheim Orange; 2, Sandringham; 3, Bramley's Seedling; 4, Royal Nonsuch; 5, Hacon's Incomparable. —— *Mrs. C. B. P., Dorset.*—1, decayed, probably Lord Suffield; 4, Norfolk Beefing; 6, Mank's Codlin; 7, decayed; 9, Victoria; 10, Lamb Abbey Pearmain; 11, Wellington; 12, John Apple; 15, Lord Suffield; 17, Court Pendu Plat; 19, Stubbard. —— *W. M. R.*—1, Cox's Pomona; 2, Warner's King; 3, Striped Beefing; 4, Bramley's Seedling; 5, Lord Derby; 6, Tower of Glamis; 7, Warner's King; 8, Peasgood's Nonsuch; 9, Flanders Pippin; 10, Fearn's Pippin; 11, Blenheim Orange; 12, John Apple; 15, Old Hawthornden. —— *F. G., Claygate.*—1, Christmas Pearmain; 2, Hoary Morning; 3, Newton Wonder; 4, Roundway Magnum Bonum; 5, Sugarloaf; 6, Schoolmaster.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Shrubs with Good Autumn Foliage.—Among the many plants that give us such beautiful tints with their foliage, several species of the Rhus family should be noted. At the present time such as Rhus typhina, R. Cotinus and R. cotinoides are among the most gorgeously-coloured foliage in the gardens, and if backed with golden varieties of Populus, such as a bed we have in mind, the colouring is still more beautiful.

An Attractive Rock Plant.—Of the several New Zealand Burrs that we now have, Acæna microphylla, the Small-leaved Burr, is one of the best for the rock garden with its crimson, globular heads of spine-formed calyces, which are a very conspicuous and ornamental feature of the plant at this time of the year. These look like so many crimson stars, 2 inches or 3 inches high, upon a cushion of small, green, pinnate leaves. It is a worthy plant for all rock gardens, as it will do in almost any soil or situation.

A Late Sunflower.—Though not so free-flowering and showy as some of the September-flowering perennial Sunflowers, Helianthus doronicoides must be considered quite as valuable, for the blooms are at their best in mid-October. Growing about eight feet in height, the flowers are rich yellow and about two inches across. Such late-flowering plants are very useful to brighten up the shrubbery borders, and also provide useful material to cut for indoor decoration. H. doronicoides is a North American species.

Two Good Autumn Roses.—Two of the best Roses, apart from the Dwarf Polyantha varieties, in our garden on Monday last, the 27th ult., were Mrs. Arthur Munt and General Macarthur. Both were in full flower, and the blooms were almost as full and fresh as those we had in July. Mrs. Arthur Munt, owing to the erect flowers being borne on long, stout stems, is ideal for cutting, and nearly every bloom is of exquisite shape. The colour is ivory white, with a very faint blush showing through the petals. General Macarthur we look upon as one of the best red garden Roses, and it is deliciously fragrant.

A Beautiful but Old Michaelmas Daisy.—In these days, when we have so many beautiful varieties of Michaelmas Daisies, we are apt to overlook some of the old but beautiful species, of which Aster Tradescantii is one of the best. It is said to be the first of the many North American species cultivated in Europe, being introduced about the year 1633 by John Tradescant, who was gardener to Charles I. In a border among many of the varieties of recent introduction, A. Tradescantii, with its long, elegant sprays of pure white flowers, which are borne in great profusion, is as conspicuous as any of them. This makes us think that the old kinds of flowers are not always deserving of the neglect they get.

A Late-Flowering Wall Shrub.—At this time of the year the number of shrubs flowering out of doors, either in the open or against a wall, are somewhat limited, so where it is possible a place against a warm south wall should be found for Abutilon megapotamicum, sometimes known as A. vexillarium. Although it is not hardy, it succeeds perfectly well against a warm wall, and will give a profusion of blooms—the sepals of which are of a rich dark red, the petals pale yellow—from early summer till the frost comes.

A Hint for Planters.—Last May, when the crimson and pink Thorns were flowering, we saw several instances where these charming trees were in particularly bad positions; hence a word of warning seems called for now that the planting season is here. The trees in question were placed so that the dwelling-house of glaring red bricks formed a background, and anything more incongruous it would be difficult to imagine, the different shades of red clashing horribly. Cratægus Pyracantha, with its orange red berries, looks almost as bad at this season when nailed tightly to a red brick wall. The moral is obvious.

An October-flowering Plum.—The present spell of mild weather is proving very favourable to hardy trees and plants which flower in late autumn. Among these, the uncommon Prunus miqueliana is very prominent. It is flowering well this year. The semi-double white blossoms are about three-quarters of an inch in diameter and fragrant. Flowering naturally at this season, Prunus miqueliana should prove a useful shrub to grow in pots for indoor decoration, as at this season we may any day have a frost and spoil the flowers.

Autumn-Flowering Sage for the Greenhouse.—Salvia involucrata Bethellii is a plant that is not grown so much now as it was at one time. This may be due to the fact that there are so many other beautiful plants for decorating the conservatory during the autumn, although that is hardly a good enough excuse for leaving this attractive plant out. It is a handsome variety, with whorled spikes of bright rosy carmine flowers borne at the end of the branches. As it is easily raised and requires little attention, it should be used for greenhouse decoration in the autumn.

Late-Flowering Saxifrages. — Although the majority of Rockfoils bloom in spring and summer, there are one or two that are valuable for their late-flowering character. One of the best of these is Saxifraga Fortunei, a beautiful Chinese species with erect panicles of white flowers standing well above the leaves, which are reniforme, cordate and of a glossy, dark green colour. Another species very similar to S. Fortunei, flowering at the same time, is S. cortusioides, a plant of more recent introduction, with less hairy stem, and the petals are entire. Both are quite hardy and succeed best in a partially-shaded position in gritty, rich, well-drained soil, or are excellent for growing in pots for a cool greenhouse.

CORRESPONDENCE.

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

The Apennine Windflower.—This charming Windflower, Anemone apennina, is quite at home in a shady corner of the rock garden at Lilford Hall, Barnwell, Oundle, where it gets little sun. It is planted in loam, leaf-soil and grit, with plenty of broken stones mixed with the soil. Six plants were the beginning of the group; but now, by spreading and seeding, they have formed a patch 6 feet square, with flowers varying in colour from deep blue to almost white. We give them a surface-dressing each autumn of loam, leaf-soil and grit, and the illustration shows the result.—E. WILSON.

Failure of Pears.—Referring to the Rev. C. E. Jeans' note on page 523, I am of his opinion that the cause was the long spell of cold nights at the critical period in spring. I am further North, but well protected on the north-east and south-west. My record is: Doyenné du Comice, fourteen trees, three on wall, six Pears; Williams', five trees, half a bushel; Conference, six trees, two on wall, half a dozen; Pitmaston Duchess, five trees, six Pears; Gansel's Bergamot, large tree, one peck; Louise Bonne of Jersey, four trees, one dozen; Chaumontel, heavy crop; one Bergamot Esperen, also heavy crop; Durondeau, two trees, four Pears; Bergamot, never fails, one tree, one bushel; Catillac, one tree, ten Pears; Marguerite Marillat, three trees, none; Uvedale's St. Germain, one large tree, one dozen; Beurré d'Amanlis, three trees, none; and about ten other varieties, none; thirty varieties. Plums Pond's Seedling and Orleans, fair crops; Victoria and Prince of Wales, a few; others none. Apples, 95 per cent.; fifty varieties heavy crops, notably Blenheim Orange, Wellington, Newton Wonder and Bramley's Seedling. — HUGH JONES, *Tudor House, Monken Hadley, New Barnet, Herts.*

ANEMONE APENNINA FLOWERING FREELY IN A READER'S GARDEN.

Rose Aglaia.—In your admirable Rose Number of October 11, reference was made to the climbing Rose Aglaia. With me, in an old garden possessing a very light but fairly deep soil, it has succeeded beyond expectation; indeed, I cannot say too much for it. The beautiful glossy, dark green foliage is always proof against mildew, and the green fly and the maggot prefer to go elsewhere. It is most generous in blooms, producing the exquisite yellow buds in great profusion during the entire season. As a covering for, say, a summer-house, I can conceive nothing better, as the branches want to fall all round like a Weeping Willow. Of course, the pruning-knife was not made for Aglaia. May I take this opportunity to say how much indebted I feel for the many helpful hints which have come to me from THE GARDEN. I grow, in a small way, chiefly Hybrid Perpetuals, which flourish like weeds and bloom magnificently; but the Hybrid Teas (all dwarf), for some reason or other best known to themselves, are sulky and make a poor show.—J. W. COOPER, *Alberta Lodge, Dalkey, County Dublin.*

Verbena venosa.—I had not grown this plant until this summer, so was particularly interested in Mr. Brotherston's note on page 523. As I write I have it in a big bowl in the hall, and it is glorious, and certainly most uncommon in colouring. Mr. Brotherston asks a "poser" when he enquires about its colour. To begin with, what is violet? Interrogate five different people and I expect you would get five different replies. To me purple and violet are something like a Daffodil and a Narcissus. Every Daffodil is a Narcissus, but every Narcissus is not a Daffodil. Every violet is a purple, but every purple is not a violet. After this Delphic definition, I ask myself, what is heliotrope? I reply, the shade of the old Cherry-pie that used to grow in my father's greenhouse long before the advent of the deep shades into practical politics. Hence, so defined, V. venosa is not a heliotrope; nor is it a violet or purple pure and simple. Under any light it is not that balanced shade which could be said to be neither reddish nor bluish. The see-saw is down on the red side always. Summing up, my answer is that it is a rich reddish purple in a mass.—JOSEPH JACOB.

Lime-Hating Campanulas.—In THE GARDEN of October 18 I observe that Mr. Arnott, in his interesting article on Campanulas, describes C. pulla as a "lime-hater." This is contrary to my experience of the plant; but I have so often seen it so described, and by such eminent authorities, that it would be interesting to learn how the legend originated. Mr. Robinson advises its cultivation in peat and sand; so also does Mr. Heath of Cheltenham. Both of these instructions were published some years ago. Mr. Farrer also, a few years later, in "My Rock Garden," stated that C. pulla "positively dislikes lime"; but I presume that he has since learnt the contrary from experience, as in "The Rock Garden" (a later work) he states that it grows "amongst limestone blocks in Nature." The most recent work I have—Harold Thompson's "Alpine Plants of Europe"—also states that this Campanula comes from the calcareous Alps. If Mr. Farrer and Mr. Thompson have correctly given its habitat in Nature, one wonders how Mr. Robinson, Mr. Farrer (in his earlier work) and Mr. Arnott came to describe it as a "lime-hater." Were they restating a tradition, or was the description the outcome of their experience? When I first obtained the Campanula I planted it in accordance with the directions of the authorities—in a pocket containing sandy peat. There it remained comfortably for two seasons without displaying much enthusiasm, but in its third season it suddenly appeared in the adjoining space on the rockwork—a large tract composed of loam and limestone chips, and limestone chips in plenty on the surface and devoted to alpine Primulas. Here C. pulla ran amok, and before the summer was over I had, in desperation, to remove all the Primulas before they were choked to death and leave C. pulla in possession. It has availed itself of the permission, and now occupies not only this tract, but is also endeavouring to spread from it in every direction through the limestone, and unnoticed bits evidently accompanied the Primulas to their new home, as I see the Campanula appearing there already. So far the only Campanula I have found to dislike my limestone soil is C. excisa, but as this never reappears with me, no matter where it may be planted, I have not been able to ascertain its "likes." Even C. Allioni—since I followed Mr. Farrer's prescription and planted it in moraine—lives and flowers in limestone, but it seems slow to increase. Returning, however, to C. pulla, there is not the slightest doubt that here, at all events, it rejoices in lime, and I should be much interested to learn whether its failure—for it is not everywhere an easy plant—can anywhere be traced to the presence of lime in the soil.—MURRAY HORNIBROOK, *Knapton, Queen's County, Ireland.*

Autumn-Fruiting Raspberries.—I am sending two sprays of Raspberries for your inspection. I thought perhaps it might interest readers to know that I have been gathering Raspberries all through September and October, and have a good lot now. You will see by the enclosed that the fruits are large and well worth growing, and I have plenty of them to gather every day.—H. CURTIS, *The Gardens, Harptree Court, East Harptree, near Bristol.* [The fruiting sprays sent by our correspondent were very good.—ED.]

Solidago Golden Sheaf.—Being attracted by this variety of Golden Rod as exhibited at the Royal Caledonian Society's Show in September, 1911, I bought a root of it, which was planted in the spring of last year. It failed to open its flowers last autumn, but I attributed this to the result of the cold, sunless season and the late planting. This year I looked for its golden heads some time in September. I regret to say, however, that it is only now, in mid-October, beginning to show colour, too late to be of any service. I should be glad to hear what the experience of others has been with this plant, either north or south of the Tweed.—CALEDONIA.

Saxifraga burseriana in Scotland.—My experience with S. burseriana may be of interest to those who are perplexed by the accounts of its habitat in a Swiss gorge and who may fear to try it at home. It appears to be not at all a difficult plant, either as regards soil or situation. Many years ago I planted a large clump from a 6-inch pot into a border along with other hardy flowers, and there it remained with the aid of an occasional dusting of fine soil till a year ago, when it was transferred to a rockery at that time reconstructed. It was placed where the sun shone on it from early morning till two or three o'clock in the afternoon, and is certainly none the worse-looking for being shifted. It is growing in ordinary loam, and a few weeks ago, with other Saxifrages and dwarf plants, was dressed with the usual fine soil I am in the habit of applying periodically to these plants. From the way they respond I have come to regard these dressings as a very important item in the cultural treatment of low, close-growing alpines, and have for long made it a routine practice.—R. P. BROTHERSTON, *Tyninghame, Prestonkirk, N.B.*

Lilium giganteum in Yorkshire.—A native of the mountainous regions of Northern India, this handsome Lily reaches a high standard of excellence in favoured places in this country. We have had fine specimens in flower this summer growing in a spot almost surrounded by large trees, two Yews on one side making an admirable foil. Several spikes of about eight feet in height, containing from eight to twelve large blooms, were to be seen flowering towards the end of July and lasting for about three weeks, filling the air with their fragrance for some considerable distance. The bulbs were planted three years ago in a prepared bed of loam, &c., have not since been disturbed, and this is the first time of flowering. Each season good, healthy growth has been forthcoming. During the dry spell this summer the bed received a few good soakings of water, and a liberal mulching of farmyard manure was also applied. No one who has had the pleasure of seeing Lilium giganteum in its full beauty can fail to give it a trial, for its noble grandeur adds distinction to any garden. In choosing a position, one should be selected, if possible, sheltered from the north, and anything approaching a stagnant soil should be avoided.—H. TURNER, *Serlby Hall Gardens, Bawtry, Yorks.*

The Daffodil in New Zealand.—A correspondent has just sent me a cutting from the *New Zealand Herald* of August last, giving an account of the Auckland Daffodil Show, which appears to have been a very successful function. It quotes a speech made by the judge (whose name is not given). I quote from it. "The seedlings," he remarks, "have some very good blooms among them, and to-day's display in this section makes one extremely dubious about buying plants from Home." This is a little unkind to Messrs. Barr, who were given a cup at the show. He proceeds, "Although Home nurserymen may produce a few seedlings of better quality than those grown in the Dominion, I think the New Zealand average seedling is better than the Home plant." All this makes very sad reading for the Old Country. *Sic transit* Gloria Mundi, *sic transit* Bernardino and all the good things we have prided ourselves on; and no doubt after this Mr. Engleheart, Mr. Crosfield and humble followers of them like myself and others will give up any further work and leave off wasting our time.—F. H. C.

A NEW PLANT FERTILISER.

DURING recent years, owing mainly to the increasing difficulty experienced in obtaining natural manure, scientists have devoted considerable time and thought to the question of fixing the free nitrogen present in the air so as to render it available for use by green-leaved plants. As any student of botany is aware, many plants belonging to the Pea family, such as Beans, Peas and Clover, have on their roots little swellings, technically known as nodules, which contain bacteria that are capable of extracting this free nitrogen from the air and so converting it that the plants, and also those that follow them, are able to make use of it. It was argued some years ago that if these bacteria could be artificially added to the soil in sufficiently large quantities, and induced to carry on their work, plant-life generally would be considerably benefited thereby. Then came Professor Bottomley of King's College, London, with a culture that he called nitro-bacterine, and for which he claimed that it would, if properly treated, inoculate the soil with sufficient bacteria to render the application of artificial nitrogen unnecessary. Time has proved that this did not, under practical conditions, do what was claimed for it. Now, Professor Bottomley comes forward with inoculated peat. At the Horticultural Club on Tuesday of last week the Professor gave an exceedingly interesting lecture on the subject and proved beyond all doubt that, whatever may be the reason, the application of this prepared peat has a very marked effect on vegetation. Briefly, the peat is treated with aerobic bacteria to destroy the injurious humic acid that it contains. Next it is sterilised by steam, and finally inoculated with a pure culture of nitrogen-fixing bacteria.

Experiments have been conducted in various parts of the country with this inoculated peat, but two instances will suffice for our purpose at present. One experiment—and the most important to horticulturists—has been conducted at Kew. Here the curator, Mr. W. Watson, has personally supervised the work, and those who are privileged to know him are fully aware that he has little faith in scientists of any kind, and would be only too glad to be able to condemn their theories. Two each of plants of widely diverse characters, such, for instance, as Abutilons, Fuchsias, Salvias, Hippeastrums, Asparagus plumosus and Maidenhair Ferns, were selected, one of each being grown in ordinary potting soil and the other in potting soil to which the prepared peat had been added, in proportions of one part peat to two of soil, one part peat to four of soil, and one part peat to eight of soil. The plants had been brought from Kew for members of the Club to see, and in every instance both root and stem growth of those growing in the peat-charged soil was very much better than that of those grown in ordinary soil. Mr. Watson, who addressed the meeting at the conclusion of the lecture, stated that he had no doubt whatever that the prepared peat, when added to the soil, had a highly beneficial effect on the plants. He also stated that when used at its greatest strength, *i.e.*, one part of peat to two of soil, it had no injurious effect on vegetation, yet the one part of peat to eight of soil mixture gave just as good results.

The other experiment has been conducted by Mr. Peter Lees, the well-known authority on golf greens. Unfortunately, this was not made known until the close of the meeting, when many members had left. Apparently Mr. Lees has been using this prepared peat at the rate of 30z. per square yard as a top-dressing to badly worn or thin greens, with a result that is little short of marvellous. Not only was new top growth made in abundance, but roots also of a fibrous and far-reaching character were formed. If this were all, it would seem that we have a panacea for all the troubles that beset the grower of plants. But Dr. Voelcker rather put a wet blanket on the enthusiasm of those present when he asked the pertinent question whether the benefit was due to the nitrogen-fixing bacteria or to the plant food that peat naturally contains, and which would be rendered available by eliminating humic acid and by sterilisation, and to the mechanical effect that peat would have upon soil used in the proportions named. Dr. Keeble, who also had something to say on the subject, supported Dr. Voelcker's statement that probably sterilisation of peat by steam would have a greater beneficial action upon it than the inoculation with nitrogen-fixing bacteria.

The question of cost in producing this prepared peat was raised by several members, but on this important point Professor Bottomley would not express an opinion. If it can be produced cheaply—which we very much doubt—it will certainly prove a boon to the gardener, no matter whether its beneficial action arises from the natural manurial substances that peat contains or from the nitrogen-fixing organisms. Meanwhile, we must wait and see.

FORTHCOMING EVENTS.

November 4.—Royal Horticultural Society's Exhibition at Vincent Square, Westminster. Sevenoaks and West Kent Chrysanthemum Show (two days). Plymouth Show (two days).

November 5.—National Chrysanthemum Society's Show at the Crystal Palace (three days). Autumn shows at Stoke Newington, Undercliffe, Guildford, Barry, Bromley, Northampton, Bideford, Tottenham (two days), and Highgate (two days).

November 6.—Devon and Exeter Show (two days). Shows at Weston-super-Mare, Newport (Monmouth), and Bury.

November 7.—Shows at the Corn Exchange, London; Hinckley, Eccles, and Kirkcaldy (two days).

November 8.—Shows at Loughborough, Wood Green and Formby.

ROCK AND WATER GARDEN.

SOME INTERESTING FACTS ABOUT GENTIANA VERNA.

FEW of the alpine flowers which decorate our gardens during April and May have such a charm, both for daintiness of outline and intensity of colouring, as the Vernal Gentian. While seeming to revel in the moist atmospheric conditions prevailing in many parts of Ireland, it is not often that Gentiana verna is seen at its best in the Eastern Counties of England, where, during the early spring, we frequently experience dry, cutting winds from the north-east. These arid conditions, which so rapidly cause our Ramondias to turn brown and curl inwards, are, I believe, responsible for much of the difficulty we experience with some of our mountain plants, especially as the sodden condition of our normal winters induces the plants to be constantly active, instead of being at rest during the chill time of the year.

So many plants are "hardy" while dormant, and, again, many more are immune from the frost so long as they are comparatively dry; but when wet and cold jointly act upon them, the result is often fatal, or at least considerably reduces their vitality.

It occurred to me some years ago that these unhappy conditions could to a large extent be modified by inducing the plants to go to rest at the end of the autumn, and a sheet of glass somewhat larger than the patch or tuft, placed above it and supported upon three or four bent wires, formed a ready means of throwing off all rain, while a slight tilt to one side allows the water to drip off on to some prearranged stone, thus avoiding any damage to neighbouring plants. This sleep-inducing system proved so far successful that I have for several years past, despite the smoky condition of my neighbourhood, been favoured with a pleasing display of the "blue stars" of G. verna, among other alpine subjects, which I treated in this way.

To illustrate as certainly as possible and so check off the value of this "dodge," I made the following experiment, commencing in the spring of 1912 by planting two small patches of G. verna in as nearly similar positions as possible, and both in a compost of loam, leaf-mould, chips, sand and old mortar in roughly equal proportions, the aspect being full south, and both kept copiously moist from the end of March to September

In November, 1912, I placed a roof glass over Patch A, while I allowed Patch B to go unprotected. With the exception of occasionally cleaning the glass, no further attention was given to either. In early March the glass was removed from A, which then looked dry, close in habit and healthy, though no flower-buds were showing, the whole plant appearing dormant. At the same date (early March) Plant B was well "on the move," looking fresh and much more pleasing than its competitor A, and not appreciably harmed by the wet winter, so far as growth was concerned, while four or five of the points were "bronzing up," as the flowering crowns do as the buds form. On March 30 Plant A was rapidly developing, and all the points looked as if about to "push" into flower-buds, while fifty of such buds were actually showing. Plant B at that date was swelling its twelve flower-buds almost to bursting point. On April 16 Plant B opened its first flower and had increased its buds to eighteen. On April 18 Plant A opened its first flower, showing how rapidly it had developed after its more complete rest, catching up Plant B to within two days. The fifty buds of March 30 had increased to 150. On April 20 Plant A exhibited a number of opened flowers of dazzling blue, while the total number of blossoms and buds stood at 195. On April 27 Plant B had all its eighteen flowers open, and this was the limit of its production.

On the same date I made the last count on Plant A, a difficult matter where the buds were set so thickly as almost to touch one another.

GENTIANA VERNA FLOWERING FREELY AFTER HAVING BEEN COVERED WITH GLASS IN THE WINTER.

By placing pieces of string across the patch (which was some 10 inches square) it was easily cut up into sections, and each section counted accurately, the total numbering 206. When first planted in 1912 the Patches A and B were approximately the same size. By the summer of 1913 A had doubled B, suggesting that it was more vigorous in growth as well as in flower production.

From the foregoing I think it must be admitted that the roof glass appears to increase the proportion of flower and the general health of the plant, not merely with this test subject, G. verna, but with very many of our choicer alpine plants, while if, as some of my critics may suggest, the beautiful display was unconnected with the treatment, the glass protection does not greatly harm the plant

R. A. MALBY.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

NOTES ON NEWER ROSES.

(*Continued from page* 540.)

Claudius (B. R. Cant and Sons, 1910).—A Hybrid Perpetual-like Hybrid Tea with most of the characteristics of the first-named class, including a marked cessation of flowering between the seasons; but it comes good again in the autumn, and is fragrant. It was at the autumn show of 1909 that it secured the gold medal. Those who do not grow it might give it a trial. At its best it is quite up to exhibition standard, and is at normal prices.

Countess of Shaftesbury (Hugh Dickson, 1911).—A Rose of delightful colour and shape, but on the thin side, and only the "first" flowers are up to exhibition standard. Silvery carmine and shell pink describes its colour. Its growth is moderately vigorous. A very beautiful Rose that must have the best of cultivation to get substance into it.

Colleen (S. McGredy and Son, 1914).—I was hoping this Rose would be distributed this autumn, but we shall have to wait until next year for it. Awarded the silver-gilt medal at Belfast, and the gold medal this year at Gloucester. Its great shield petal is very fine. Colour, flesh pink on a cream ground. A good grower and very free-flowering, and the flowers always come a good shape. What a great boon this is to the exhibitor, only one who has exhibited knows. How many a fine bud is nursed and tended, protected and shielded from sun and rain, only to prove that when it opens it is of no use, with a great split that spoils its beauty alike for the exhibitor and the exhibition. And it is Roses like Colleen, which seldom develop such a fault, that are so useful to the small exhibitor in particular whose space is limited. Colleen has done well in my garden here, and is a very great advance on Killarney, to which some critics liken it. The raiser is very proud of it, and considers it one of his best introductions. While it is not mildew-proof, it does not suffer like many other Irish Roses from this disfigurement. It is a fine, vigorous grower of good constitution.

Duchess of Normandy (Philip le Cornu, 1912).—This has been particularly good with me this year. It is quite as good a grower and doer as its parent, Dean Hole, and the early season flowers were first-rate in every respect, especially in colour. The autumn flowers missed the sun, perhaps, and this feature was not so marked; but it is very free-flowering, and my plants are now, in mid-October, full of bud and bloom. It has the fault of its parent that it is impatient of wet; but that has no terrors for the keen exhibitor. I can recommend it to all who have not got it, and I do so all the more because I do not think that our cool season has altogether suited it. It will be at its best in a hotter and drier season than the last.

Duchess of Sutherland (Alex. Dickson and Sons, Limited, 1912).—This is a well-built-up flower of fine shape and nice clear colour—rose pink of

an unusual shade. It is a fine, vigorous grower, almost mildew-proof, and generally of good habit. The blooms are large, but at the same time conical in shape, and this shape is never lost, its centre being retained until the petals drop. This Rose has a strong Sweet Briar perfume that is very noticeable.

Duchess of Westminster (Alex. Dickson and Sons, 1911).—This Rose appeals by reason of its somewhat unusual outline, and when you dissect to find the reason, you notice that the petals are very much cut away at the base. The result is quite unique. At the same time, it is perhaps not everyone's fancy as an exhibition variety, as it lacks that look of "weight" that counts so much with some judges. It has, however, an excellent point—with me quite a good grower, though I see some catalogues call it moderate. Good foliage, delicious perfume, and lasts well when cut. Colour, rose madder pink. The buds sometimes come rough, but they open into good-shaped flowers.

Earl of Gosford (S. McGredy and Son, 1912).—A strong, vigorous grower this, that has been much freer-blooming as a cut-back. The flowers are a wonderful colour — dark crimson, several shades darker than Hugh Dickson—and they keep their colour to the last. There is none of that nasty blue tint which spoils so many dark crimsons. Strongly perfumed and of good shape, cupped rather than reflexed. Must be disbudded to get to exhibition size. Particularly good in the autumn.

Edward Mawley (S. McGredy & Son, 1911).—This Rose has improved this year, and has distinctly enhanced its reputation. A good many blooms have found their way to the exhibition tents and were staged. The previous year they were mostly left in the spare boxes. Its colour will always make us stage it, if we can. It has not too many petals, and directly the outside row or two are opened, the Rose goes, so it must be cut and staged young. Highly perfumed and with a good habit of growth. It evidently prefers a cool season. Everyone was glad to see it doing better, if only for the sake of the name it bears.

Elizabeth (B. R. Cant and Sons, 1911).—A genuine pink Druschki this, with more petals and, consequently, a harder centre. It produces a fine pointed flower, its only fault being that the outside petals are not quite big enough. Very free-flowering and reliable. Must be heavily disbudded, and is strongly recommended to the exhibitor.

Ethel Malcolm (S. McGredy and Son, 1910).—This Rose is almost too free-flowering to produce exhibition flowers, except in the early part of the season from cut-backs; from maidens it is a different matter. It is flesh colour, almost maiden blush tint, sweetly scented and a good grower, not too vigorous, and therefore makes a very fine bedding Rose. It was to be seen at most of the early shows, but not afterwards, which, being interpreted, means that it should be useful to our Midland friends and the Northern growers who want early Roses.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

TREES AND SHRUBS.

A SHOWY CLEMATIS FOR THE FLOWER BORDER.

(C. JUBATA.)

THE accompanying illustration of this plant directs attention to a decorative group of herbaceous species which are typified by the Southern European C. recta. C. jubata resembles the better-known species very closely in habit and general appearance, although rather stronger, with larger flowers. Growing to a height of 2½ feet or 3 feet, it bears long leaves divided into seven or less ovate or heart-shaped leaflets, which are glaucous when young. The white or cream coloured flowers are borne in large terminal panicles during June, their presence being noticeable from a considerable distance by reason of their fragrance. Although described as long ago as 1849, there is a mystery as to its origin, for its native habitat is unknown. As C. recta is a variable plant, it is probable that it is little more than a strong-growing form of that species. Whatever its affinities, it is a very decorative plant, and is well worth attention from those people who wish for showy, hardy plants for herbaceous borders. Given ordinary deep garden soil it grows freely, and never fails to flower well. Division of the clumps during winter forms a ready means of increase, while young plants may also be raised from seeds. As will be seen from the illustration, growth is very dense, and it is sometimes an advantage to cut out the weakest shoots during the growing period, thus admitting light and air to the stronger ones that are left. Although not a climbing species, this Clematis appreciates the support of a few short Pea-sticks thrust well into the soil.

CLEMATIS JUBATA, A BEAUTIFUL SPECIES WITH DWARF, BUSHY HABIT AND WHITE FLOWERS.

THE BEST TREES FOR AVENUES.

THE selection of trees for avenue planting is a subject which cannot be dealt with lightly, for it must be remembered that such an avenue may exist for two or three centuries, and every possible contingency must be considered before finally deciding upon the kind of tree to plant. The character of the soil, the room which can be allowed, atmospheric conditions, proximity to towns and climate are all subjects which demand attention, for the neglect of any one may lead to failure.

Unless the avenue is to be a short one, entailing comparatively little work and expense, it is unwise to select a tree about which little is known, simply because it is new or rare. About the middle of last century many avenues were formed of new or rare coniferous trees, and comparatively few of them have developed satisfactorily. As a rule it is wise to note whether a particular tree thrives well in a certain district before it is selected for an avenue; but, at any rate, it should be ascertained whether the local conditions are likely to suit the tree. For instance, it would be unwise to plant conifers near a smoky town; on a very dry soil, or in a district where atmospheric conditions are decidedly on the dry side. On the other hand, coniferous trees would be more suitable than broad-leaved trees for the moist climatic conditions and moist ground which are so often in evidence in the South and West of England, many parts of Scotland and in Ireland.

Another point which deserves more attention than is often paid it is the spacing of the trees, not only in the rows, but between the rows. When laying out the ground, the trees must be considered as mature specimens, not as young plants, and arrangements made accordingly. Many an avenue has been spoilt by being made too narrow, thus

allowing no space for the proper development of the trees. The space between the trees in the rows is less important than the space between the rows, for it is always possible to thin them out, by removing every other tree, if they become too thick. With wide-headed trees a rough guide as to the distance between the rows may be ascertained by measuring off the space required for the heads of two perfectly-developed trees, or the average height of one well-grown tree, as the centre of the avenue; then on each side measure back half the diameter of the mature head to find the positions for the trees. Between the trees in the rows, when fully developed, there should be a space of at least half the width of the head of a tree. In the event of a double row of trees being planted along each side, the trees must be further apart in the rows, and those in the two rows should be alternated.

If the soil is poor, holes at least 8 feet in diameter and 2 feet deep must be taken out, and either filled with new soil or have better soil mixed with the best of the natural soil. This work should be done and the holes filled in at least two months before planting-time, for if the trees are planted on the loose soil, there will be considerable sinkage and the lower parts of the trunks may become buried. Keeping the top roots quite close to the surface of the soil is a very necessary item, for if the trunk is buried even to a depth of 3 inches or 4 inches, the tree rarely succeeds so well as one which is planted properly.

SELECTION OF TREES FOR WIDE AVENUES.

The Horse Chestnut (Æsculus Hippocastanum) is one of the best avenue trees for places which are not seriously affected by smoke, for its massive head, clothed with large, ornamental leaves, coupled with its fine inflorescences of showy flowers, makes it a general favourite. It is not very fastidious regarding soil, but prefers a fairly deep loam. The double-flowered form is preferred by some people, as it does not produce fruit.

The Elms (Ulmus montana, U. glabra and U. campestris) are all worth attention, and are very imposing when mature. Their only drawback lies in the fact that old trees are very brittle, and large, perfectly healthy branches are liable to fall without warning, even on a calm day. Where space is limited, the narrow-headed, upright-growing Cornish and Hertfordshire Elms should be chosen.

The common Lime (Tilia vulgaris) is often chosen as an avenue tree, but in most cases it would be wiser to select T. dasystyla or T. petiolaris, for they are more handsome trees and the leaves do not turn yellow so early in autumn. The mistake of allowing the trees to branch too near the ground is often noticeable in the Lime.

The common Oak (Quercus pedunculata) forms a handsome tree for avenue planting, but it should only be used in places where there is a good depth of rich, loamy soil; otherwise it will fail to do itself justice. The Durmast Oak (Q. sessiliflora) may also be used, and such kinds as Q. coccinea, Q. palustris, Q. rubra, Q. conferta and Q. Mirbeckii are also worthy of consideration.

The common Beech (Fagus sylvatica) may be relied on to form an imposing avenue, but it is unwise to use it in very exposed positions, for if subjected to rough and cold winds its full proportions are not attained. For special positions the purple and copper leaved kinds may be tried.

The Sycamore (Acer Pseudoplatanus) is worth planting in districts where the tree grows to its largest size; but where it only attains medium proportions, some other subject is more desirable.

The common Tulip Tree (Liriodendron tulipifera) might be used in the Midlands and Southern Counties where the soil is good, for it grows freely in most gardens, is an imposing tree and uncommon for the purpose.

The Holm Oak (Quercus Ilex) thrives well in many parts of the country, and may be used for avenues in the South and West. A fine avenue of this tree occurs at Tregothnan in Cornwall. Ailantus glandulosa (the Tree of Heaven), Juglans nigra (the Black Walnut) and Platanus orientalis (the Oriental Plane) are other broad-leaved trees which may be used from the Midlands southwards.

The Maidenhair Tree (Ginkgo biloba), although not used except as an isolated specimen, is likely to give good results as an avenue tree in places where conifers thrive. Could an avenue of this be established, it would form both an uncommon and interesting feature.

Other conifers which are worth attention are Scots Pine (Pinus sylvestris), Douglas Fir (Pseudotsuga Douglasii), Cedrus atlantica and its glaucous variety, Cupressus lawsoniana and Tsuga mertensiana. Where space is limited, smaller trees, such as Prunus Avium flore pleno, double-flowered Thorns, Pyrus Aucuparia, Fraxinus Ornus and Æsculus carnea, may be planted. K.

A HANDSOME BORDER CAMPANULA (C. LATIFOLIA ALBA).

FLOWER GARDEN.

THE CAMPANULAS OR BELLFLOWERS.

(*Continued from page* 536.)

BORDER CAMPANULAS.

WHILE the gems of the race belong to the Campanulas most suitable for the rock garden, a considerable number of the border species are of commanding value for the garden. As a rule, they can be successfully cultivated in the ordinary border of common loam, but the greater number are the better for good soil and supplies of manure at intervals. They are easily raised from seeds sown in spring in the usual manner for hardy perennials, and the vast majority may be increased by division in spring or autumn.

C. alliariæfolia. — Although rather coarse in its way, C. alliariæfolia is a good border plant, with rather cordate leaves, pilose on the surface. The drooping white flowers are in neat spikes. It is occasionally grown as C. lamifolia, C. cordata and C. cordifolia, and from some nurseries a variety of C. latifolia alba is sometimes sold as C. alliariæfolia. About a foot high. June and July.

C. amabilis.—A pretty Campanula with a tuft of glossy leaves near the level of the soil, and spikes from 12 inches to 36 inches high of pleasing blue flowers in July. I have found this difficult to retain, as it often flowers itself to death, but this is not the universal experience. Seeds or division. C. phytidocalyx resembles this.

C. americana.—This is not a very desirable subject, being either biennial or annual, usually the former, and coarse in its way. It likes partial shade and moisture, and grows from 2 feet to 6 feet high. It has spikes of blue or almost white flowers in July. Seeds.

C. bononiensis.—About a foot high, this is a useful July-blooming, starry-flowered blue Campanula, but one which wants frequent propagation

to keep, as it seems to exhaust itself. Seeds or division. Common soil. Alba is a white variety.

C. Burghaltii.—A handsome hybrid 12 inches to 18 inches high, with very large, drooping bells of light purple in July. Easy to grow in any border, and also pretty on large rockwork. Division. It is rather lighter than C. van Houttei.

C. elegans.—The plant the writer has grown as this is from 2½ feet to 3 feet high, and has rather toothed leaves and spikes of pendent blue flowers in July. It was troublesome, running at the roots, and was discarded. Seeds or division, and flowers in July.

C. Fergusoni.—A handsome hybrid 2½ feet high, with pale blue, cup-shaped flowers. Common soil. Division. July.

C. glomerata.—The Clustered Bellflower is a valuable border species, well known for its clustered heads of upright flowers. It varies from blue and purple to white, and is from 6 inches to 18 inches high. C. g. acaulis is a curiously pretty little plant for the front of the border or the rockery. C. g. dahurica is one of the best, and there is a double variety. Common soil. Seeds or division. June onwards.

C. grandis.—Another of the best border plants, making tall spikes from 12 inches to 36 inches high, with saucer-shaped flowers of blue or white in good spikes. Sometimes makes too much foliage and requires division. A capital border plant. It is now known as C. latiloba. June to July.

C. Grosseki.—A tall plant 2½ feet to 3 feet, with coarse leaves and spikes of blue flowers. Not a choice species. Seeds or division. July.

C. Hendersoni.—A hybrid of much beauty, after the fashion of a small Canterbury Bell, but perennial. Neat growth, about a foot high, and with nice blue bells on short spikes in July. Division.

C. lactiflora.—This is a truly handsome plant for large borders of good soil, and grows from 3 feet to 6 feet or 7 feet high. It has rather flat heads of flower, varying from purple to white, and there is a variety with very starry flowers. Poor in dry soil. Seeds or division. The same as C. celtidifolia of gardens. June, July and August.

C. latifolia.—This handsome June and July flowering native plant, 3 feet to 6 feet high, should be represented in gardens by C. l. macrantha and C. l. m. alba, two superior forms with larger bells, and the first more richly coloured than our blue C. latifolia. The flowers are a rich purple. Good soil, and partial shade is preferable. Seeds or division. C. eriocarpa is a rather woolly form of this.

S. ARNOTT.

(*To be continued.*)

THE SIBERIAN IRIS BY THE WATERSIDE.

THE SIBERIAN IRIS.

IRIS SIBIRICA is one of the most graceful of the numerous water-side plants that flower in June. Although a moisture-loving plant, it prefers not to be planted in water, but rather on the margin of a stream or lake. It is a sun-loving plant, but is not in the least fastidious about soil. Sometimes it may be seen flourishing over a light, gravelly soil, and at other times over a clayey loam, but it always does best with its roots near the water's edge. The illustration shows clearly the charming effect created by this Iris on the margin of the lake at Kew. The remarkable thing is that this Iris is not more widely grown. Frequently one sees a pool or lake the margins of which could be made far more beautiful if fringed with the Siberian Iris.

TULIP NOTES.

Bedding Suggestions.—In all bedding arrangements we want to "eat our cake and have it" as much as possible; in other words, we are greedy for a long display on the same piece of ground. We want it now and we want it again. There are two simple ways of doing this with Tulips. One is to place Daffodils and late-flowering Tulips alternately in a row in a rectangular, or in a circle on a round, bed. This last spring I had Mme. de Graaff and Ellen Willmott thus planted. On a former occasion I had Seagull and Mrs. W. O. Wolseley, but there is no need to say more, for any Daffodil and any late Tulip will do equally well. In this arrangement the one thing to remember is to cut off the stalks of the faded Daffodil blooms within a few inches of the ground. Just pulling the heads off is the "anything-will-do" way. What I have said ought to be done is the satisfactory plan. The rigid stems which the lightning executioner leaves behind are a jarring note when the Tulips bloom, even to an untrained eye.

The second way to make the same bit of ground do for both is to plant a cheap early Tulip alternately with a late one, and then, when the former have finished blooming, to cut them all off at the ground-level, so as to allow the taller and later flowerers more room to shake themselves out and to avoid

the squashed-up appearance that otherwise the leaves would have. It is a curious thing, but this last most obvious plan is not my own at all. A lady visitor to my garden told me about it and assured me that it worked splendidly.

From another visitor I picked up last spring the idea of an uneven bed—deliberately planned and planted to come up as such. Yet what is this but that which the Branching Tulip of M. Bony gives us. I had a most satisfactory round bed in my garden last spring. So many were the nice things said about it that it blushed and blushed and blushed, until what once was an ivory white became almost all rose, for, unlike humanity, the old hardened sinners were the blushers here, while the younger did not appear to be affected for a considerable time by what they heard. Think, then, of the idea of an uneven bed. It has many possibilities.

The Rage for Purples and Mauves.—If to the above sub-heading I were to add rich browns and browny yellows, I think I would hit off the popular taste of 1913. Once it was all Clara Butt; now it is The Bishop, Velvet King, Faust, Zulu, Viking, Jubilee, Viola, La Tristesse, Bleu Aimable, Moralis, Euterpe, Rev. H. Ewbank, Erguste, Bleu Céleste, Gudin, Crépuscule, Thérèse Schwartze, Frans Hals and such like; while among the browns and browny oranges and yellows it is Clio (Bronze Queen), Gondvink, Toison d'Or, Apricot and Jaune d'Œuf. Every one of these that I have jotted down is a grand variety, and there are other good ones too, for I have by no means exhausted the list. Some that I have mentioned are "excessively," as the old book-lists say, scarce. The Bishop (blue-purple) and Gondvink (tortoiseshell and orange), for example, are probably now unbuyable. Excluding such as these, I am going to end these notes with a list of a few that probably will please nine out of every ten people who buy them. *Not all*, for the principle of one man's meat being another man's poison is both objectively and subjectively true. Everyone does not like the same thing. So here goes. Very deep rich plum purples: Zulu (extra tall) and Moralis (covered, as it were, with "bloom"). Red purple: Frans Hals (magnificent, in two shades), Ascanio (open Bleu Aimable shape, but with a rosy flush all over the flower; "grand in sun" is my private note). Real purple: Viking (very much after The Bishop. My head man thinks it the best. I hardly go so far as that, but in my note-book it has got a "v.g.," and I am desperately chary of these letters, I can tell you), Jubilee (very dark rich purple, long-shaped flower; against the sun the dark petals seem tipped with dark rubies). Smoky heliotrope or pale purple: Ronald Gunn (deep smoky purple, broadly edged lavender, very tall), La Tristesse (somewhat similar). Mauve and pale heliotrope: Rev. H. Ewbank (heliotrope, with paler margins to the petals), Erguste (a rather dwarf plant, long, delicate-looking bloom of a lovely pale mauve), Bleu Aimable (striking open shape, much blue in the mauve shade; to me very beautiful), Euterpe (tall and stately, a veritable queen among the paler mauves or lilacs; in the full-blown flower the lavender edges of the petals curl in, which gives it a distinct and pleasing appearance). Browns: Clio (tall grower, immense flower of the colour of a nicely-baked biscuit), Toison d'Or (medium height, rich golden bronze and browny orange; richness personified), Jaune d'Œuf (a round flower with a lemon yellow ground and browny orange shading), Gondvink (the counterpart of Clio in tortoiseshell and orange; a truly magnificent flower). One word to conclude: The foregoing selections exhaust my space but not my "fancy."

JOSEPH JACOB.

THE NEW CHRYSANTHEMUM WILLIAM VERT, OF INTENSE CRIMSON COLOUR.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Chrysanthemum Mrs. R. C. Pulling.—A large and handsome Japanese incurved variety which also possesses the good attribute of refinement. It is said to be an easy doer. The colour is rich buttercup yellow. From Messrs. H. J. Jones, Limited, Lewisham, S.E.

Chrysanthemum William Vert.—A Japanese of the reflexing type, and of good exhibition size to boot. The colour is of intense crimson, the velvety sheen upon the petals adding lustre to a very fine flower. The reverse of the petals is light golden. A notable quality is the crispness or firmness of the petals, that type of hardness which the cultivator knows will make it endure. In other words, it will prove a good keeper. From Messrs. Wells, Limited, Merstham. See illustration.

Chrysanthemum Amy Poulton.—A Japanese of the drooping type of exhibition flower. The predominant shade of colour is pale pink, with a certain degree of yellowing or creaminess in the centre. From Mr. H. Poulton, Ware, Herts.

Carnation Cinderella.—A rather bright-looking and attractive variety, best described perhaps as an heliotrope fancy, if such a class or section exists, which we very much doubt. This is suggested rather by the mingling of heliotrope and scarlet, the latter being responsible for the greater attraction of the flower. From Messrs. G. Fairbairn and Sons, Carlisle.

Cattleya Empress Frederick Variety A. Clifton (C. Mossiæ × C. aurea).—This is a distinct form, with white sepals and petals, and a creamy lip which is marked with gold and purple. From P. Ralli, Esq., Ashtead Park.

Cattleya graniris (C. Iris × C. granulosa).—A grand acquisition, with chestnut-coloured sepals and petals, and a crimson lip which is well displayed. From C. J. Phillips, Esq., Sevenoaks, Kent.

Oncidium varicosum Weston-birt Variety.—This is a much larger form and bright yellow in colour. From Sir G. Holford, K.C.V.O.

Sophro - Cat - Lælia Laconia (Lælio-Cattleya callistoglossa × Sophro - Lælia heatonense). — A dwarf plant with two scapes of rosy red flowers and a little more crimson in the lip. From Messrs. Charlesworth and Co., Hayward's Heath.

Cypripedium Queen Alexandra (C. lathamianum × C. Charlesworthii).—A large, but not a very attractive flower. The dorsal sepal is white at the apex, and the lower part is green and rose. Exhibited by W. R. Lee, Esq., Heywood.

Odontoglossum Vivien.—Very similar to a good O. crispum, the segments being almost white, with red blotches and markings. From Sir G. Holford, K.C.V.O.

NEW FRUIT.

Apple S. T. Wright.—A large, bright, culinary Apple of excellent cooking qualities. The tree is of good habit and a heavy cropper. Season: October and November. The fruit is somewhat flat, with a broad base, and the stalk set in a deep cavity. On the sunny side the fruits are highly coloured, with yellow and carmine splashes. Flesh, cream coloured and soft; core small. Small fruits are quite pleasing for dessert. Parentage: Bismarck × Peasgood's Nonsuch. An award of merit, now confirmed, was recommended at the previous meeting, subject to the cooking qualities of this Apple. Shown by Messrs. James Veitch and Sons, Limited.

GARDENING FOR BEGINNERS.

ROOTING CUTTINGS OF CURRANTS AND GOOSEBERRIES.

OCTOBER and November are the best months for taking cuttings of Gooseberries and Currants. Select well-ripened young growths. The cuttings when made should be from 9 inches to a foot long. For preference take off the cutting immediately below a joint. In the case of the Gooseberries and

GOOSEBERRY CUTTINGS READY FOR INSERTION. IN THE CENTRE IS A SUITABLE CUTTING UNPREPARED.

Red and White Currants, remove all the buds in the axils of the leaves except three to five at the top of the cutting. Take out narrow trenches a foot apart and 6 inches deep, as illustrated. In the bottom of these place a little leaf-mould and sand, and insert the cuttings in this 6 inches apart and about four inches deep. Tread the soil firmly round the cuttings, and spread over the cutting-bed a layer of half-decayed leaves, some 3 inches deep, as a protection against frost in winter. The buds need not be removed from the cuttings of Black Currants, as young basal growths from time to time are very useful to take the place of old shoots which it is desirable to cut out. Late October and the first half of November is the best time to plant the young trees, though the work may be done during open weather until the end of March.

Selection of Varieties.—The growing of named sorts of Currants and Gooseberries is by no means a common practice. This is apparently due to the fact that the old bushes fruit satisfactorily, so why worry; and when young plants are required, cuttings are taken off the old bushes. Anyone, however, who has seen an up-to-date collection of named Gooseberries will not be satisfied if his own selection of sorts has been neglected.

Gooseberries.—Whinham's Industry is one of, if not the best of all the red sorts, being a prolific bearer of good-sized berries. Another good red is Crown Bob, while among the red sorts for flavour Red Warrington should be chosen. Langley Beauty is one of the best yellow sorts, free-cropping and of good flavour. Leveller has very large yellow berries, crops freely and ripens early. Gunner is another useful yellow variety. Keepsake leads the way as a large-fruiting green Gooseberry, cropping heavily. For size Green London may be grown, and for early ripening Berry's Early Kent. Langley Gage must be regarded as one of the best white Gooseberries, for it not only crops freely, but is of excellent flavour. Whitesmith is another white sort notable for flavour and general good qualities. Careless is another useful sort with white fruits.

Red Currants. Fay's Prolific, Red Dutch, Raby Castle, and La Constante, a very good late sort for a north fence.

White Currants.—White Dutch and White Versailles.

Black Currants.—Baldwin's, Boskoop Giant (very large berries) and Lee's Prolific (good flavour).

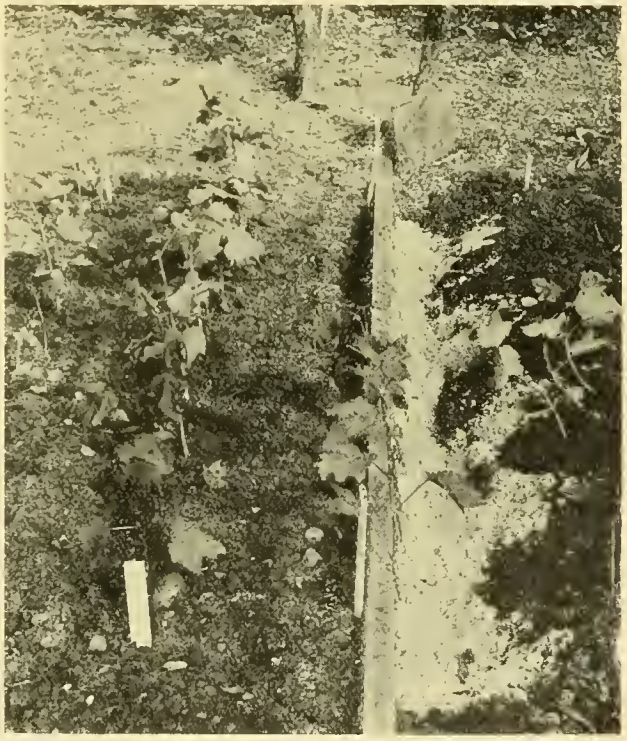
Currants and Gooseberries will grow and fruit well in most soils if the soil is thoroughly trenched before planting. The best soil is a deep, medium loam. Heavy soils may be improved by working in, when trenching, plenty of old mortar rubble, leaf-mould and wood-ashes. If very heavy and wet, it is worth while removing the soil to a depth of 2 feet, putting in 4 inches to 6 inches of brick rubble for drainage and filling up with 18 inches of prepared soil, say, about two-thirds of the natural soil and one-third of material to lighten it. Light soils are improved by deep cultivation and manuring, using cow-manure for preference; also, if available, adding a few barrow-loads of good top-spit fairly heavy loam.

Positions and Shape of Trees. — What are known as bush trees are those in general favour. In small gardens, however, where space is limited, the trees may be planted against a fence or wall with distinct advantage, for not only are the fruits easier to protect, but it is more convenient, and they are, as a rule, larger and better in quality. The aspect of the wall or fence does not matter, except that if two aspects can be chosen, including one facing north or north-west, the season of ripening is considerably prolonged. To plant against a wall or fence, nurserymen train special trees limited to one, two or three upright growths; these are known as cordons. Gooseberries and Red and White Currants are trained in this form; but Black Currants, which fruit on the young wood of the previous season, if planted against a fence, must have a liberal supply of these young shoots left.

HOW TO TREAT GREENHOUSE CLIMBING PLANTS.

IN the autumn, greenhouse and conservatory climbing plants need very careful attention, as they often grow rapidly. They cover the roofs, and, owing to the declining light and sunshine, it is necessary to reduce the mass of growth for the benefit of plants growing on stages under the climbers as well as for the welfare of the climbers themselves. The climbers that are chiefly referred to here are Passion Flowers, Tacsonias, Bougainvilleas, Plumbagoes, Fuchsias and Heliotrope. Indiscriminate pruning of the branches of these plants would result in damage to them next year.

The Passion Flowers and Tacsonias must be thinned out pretty freely. The shoots of the other kinds must be pruned back one-third of their length now. In December one-third more must be cut off, and in February the final pruning should be done. The last pruning will be close, similar to that done when Grape Vines are finally pruned. At the time when the first pruning takes place, a gradual reduction in the supply of water is necessary. As Christmas comes, very little water will be needed. In February the soil must receive a thorough soaking of clear water. Top-dressings and manure-water will be needed as the new shoots make progress. If hard pruning was resorted to in the autumn, new shoots would grow prematurely, and the display of blossom next summer would suffer in consequence. B.



CUTTINGS ARE PLACED IN TRENCHES 6 INCHES DEEP WITH LEAF-MOULD AND SAND AT THE BOTTOM.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Mowing-Machines.—Presuming that the season's mowing is over, all machines should be overhauled and thoroughly cleaned, afterwards oiling or greasing them well and storing where they are not likely to be in the way during the winter.

Turfing.—When patching has to be done, it is as well to get on with the work while the weather is open and where the new grass has a chance to get well hold of the soil. If left over till the spring, it often shows the patch the whole summer through, and this is hardly necessary.

Grass Verges.—In many instances these have to be renewed, and where they have been cut back with the edging-iron a few times, the paths will have gradually got wider, and probably are some 2 inches or 3 inches back from the water traps. In such cases it is as well to make up the soil 1 inch or 2 inches wider than is required, afterwards cutting the turf a foot back from the verge; and if this is brought bodily forward, it will make a very much better job than putting new turf on the outside, the new turf being put in at the back to fill up the gap. Such work takes a good deal of time; but if a careful and neat workman is put on to it, it well repays for the labour.

The Rose Garden.

Planting.—For bedding purposes the following are particularly good: Carine, Lady Pirrie, A. R. Goodwin, Mme. Abel Chatenay, Betty, General Macarthur, Laurent Carle, Gustave Regis, Harry Kirk, Lady Hillingdon, Mme. Melanie Soupert, Marquise de Sinety, Mrs. Peter Blair, Pharisäer, Prince de Bulgarie, Viscountess Folkestone and Richmond. Though all the above are most beautiful as cut flowers, a few of the singles may be planted, especially for table decoration, and these include Old Gold, Irish Fireflame, Irish Elegance and Red-letter Day. Another good Rose, though not quite a single, for this purpose is Margaret Molyneux.

Dwarf Polyantha Varieties.—A few of these are especially useful for bedding purposes, and as they bloom practically the whole season through, they deserve more than passing consideration. Orleans Rose I look upon as far and away the best in its class, it being most vigorous in growth; it is free-blooming, keeps a good colour in all weathers, and flowers from May to December. Jessie, Schneewittchen, Aennchen Müller and Katherine Zeimet are all good. Before planting, the roots of all Roses should be carefully pruned, partially cutting back all very coarse roots, preserving the fibrous roots as much as possible. Loose and too deep planting often results in failure, and providing the soil is not too wet, the plants should be well trod in.

Established Roses, whether standards or dwarfs, might well have some of the top growths reduced a little to prevent them being blown about by the wind, and after a storm it is wise to go round the plants, treading the soil up to them wherever necessary.

Plants Under Glass.

Coleus thyrsoideus.—This beautiful blue-flowering plant should be given a fair amount of room as well as plenty of light and air, or the growth and flower-spikes will become weak, the plant being of rather a soft nature. A little manure should be given as the flower-spikes appear, the pots by this time being usually very full of roots.

Roman Hyacinths that were potted early should now be rooted sufficiently to take out of the ashes. They should not be given too much light and air for a time, but kept shaded; this should induce the growth to lengthen somewhat. After a few days they may be given a little heat if the flowers are required as soon as possible.

Paper-White Narcissi may be treated similarly, and on no account must they be allowed to get dry at the root, or they may become blind.

Liliums.—Batches of Lilium lancifolium and L. longiflorum that may be growing on for Christmas and the New Year must be carefully treated, a nice even temperature of 55° by day and 50° at night suiting them well. Any undue forcing is apt to upset the flower-buds at this season. On bright days a slight dewing over the foliage will not hurt them; but it must be done early in the day, sufficient moisture being generally maintained by damping the paths and other places.

The Kitchen Garden.

Lettuce in frames will need careful treatment now, and though the plants enjoy plenty of air during bright weather, cold draughts must be avoided. Sulphur should be used on the under sides of the leaves when there is a tendency to mildew. Keep the soil lightly moved between the plants as often as necessary.

Asparagus.—Three year old crowns may now be lifted for forcing purposes. Too much heat must be avoided at the commencement, or the partially-rested crowns will only throw up very weak shoots. Batches should be introduced into the forcing-frames every two or three weeks, according to the demand.

Seakale.—As soon as the leaves have all died off, the crowns should be lifted and trimmed, reserving the strongest of the thongs for next year's planting. Store the crowns that are fit for forcing where they are easily got at as required. A week or two should elapse before placing any in heat, after which it should become a weekly operation.

Fruits Under Glass.

Vines for Early Forcing should now be in a fit condition for pruning, after which the annual cleaning should take place. This must not be done in a haphazard manner, but everything possible should be done that is conducive to cleanliness. Woodwork, glass, walls, pipes and trenches should all have a thorough washing down, the walls being relimed and the pipes painted. The Vines themselves must also be thoroughly cleaned, and have a dressing with an insecticide, this being even more carefully done where they may have been infested with any kind of insect pest. After cleaning, the borders should receive whatever attention they may require in the way of renovation or top-dressing. This is an important factor in the ultimate success, as in most early vineries the borders are all inside and fairly shallow.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Planting Lily of the Valley.—When allowed to get very thick in the beds, the flower-spikes become very small. Wherever it is necessary to replant, the present is a suitable time for the operation. Trench the ground deeply, working in a good deal of well-rotted farmyard manure, and, if the soil is inclined to be heavy, incorporate some sand with it. For convenience in picking the flowers, beds 4 feet wide are very suitable. Select the strongest available crowns and plant them about six inches apart, so that the base of the crowns will just be under the surface.

Planting Herbaceous Flowers.—The border being in readiness, planting is the next step. It is more effective to plant in clumps of not less than three, than to plant single specimens.

The Rock Garden.

Planting.—Generally speaking, associate the taller subjects with the bigger stones, find out the moisture-loving plants, and plant them at the base, placing suitable subjects higher up. Find out the requirements of the various subjects as to soil, and fill up the pockets they are to occupy accordingly. Aspect must also be studied, and one should keep in mind that, speaking broadly, the gems are the most exacting in their requirements.

The Rose Garden.

Planting.—We have now entered upon the ideal month for Rose planting, and those who intend planting should not defer the operation too long. Prior to being planted, the roots of the plants should be gone over, and all damaged roots be cut back to healthy wood with a sharp knife. Long, bare roots should also be well shortened; it is the fibrous roots which are essential to the well-being of the plant. See that the bottom of the pit is either convex or flat; never leave the bottom concave. When adjusting the plant, see that it is at least as deep, or very slightly deeper, in the soil as it was previously. Firm the soil well right up to the base of the stem. A mulching of light, open material will facilitate the rooting process, and will ward off severe frosts from the roots. See that the plants, clumps or beds are correctly named, for even peers of the realm sometimes suffer from loss of "face memory."

Plants Under Glass.

Poinsettias.—Few plants brighten up a house during the dull days more than these showy plants. A temperature of 60° or a little over by night suits them very well. They last long in a cut state, but when so used they should be placed in a somewhat cooler house for a week or ten days prior to being cut.

Moschosma riparium.—This member of the Sage family, although not particularly showy, is very useful as a winter-flowering plant. See that the plants are not neglected for the want of water, or they will lose their foliage quickly. Continue to give them bi-weekly supplies of liquid manure. Do not crowd the plants.

Calceolarias.—As these plants are in active growth during the winter months, attention must be given to repotting; 3-inch, 5-inch and 7-inch pots are the usual shifts. They will generally require shifting into 5-inch pots about this time. Fibrous loam should form one-half of the compost; the other half should be mostly good Beech or Oak leaf-mould, with a little dry cow-manure and sharp sand. Vaporise on the first appearance of aphis. Keep the plants cool.

Fruits Under Glass.

Early Vinery.—Where ripe Grapes are expected in the beginning of May, a start should now be made. Shut up the house and commence with a night temperature of from 45° to 50°, with a rise of 5° during the day.

Figs. — As soon as Figs in pots become defoliated, they should be examined, and, if necessary, be repotted; if not, some of the surface soil should be loosened and removed by the aid of a pointed stick, after which the plants should be top-dressed with good loam and bone-meal or dry cow-manure. The plants can then be accommodated in a Peach-house or even in a shed, where they should be kept rather dry at the root, but not be allowed to become dust-dry.

The Hardy Fruit Garden.

Purchasing Gooseberries and Currants.—Those who intend planting Gooseberries or Currants should lose no time in purchasing. It may not be amiss here to indicate a few reliable varieties for the benefit of the uninitiated. Taking Gooseberries first, Langley Gage, White Champagne and Whitesmith are reliable white varieties. Among yellows, Early Sulphur, Golden Lion and Yellow Warrington can be recommended. Green Gascoigne and Langley Green are two good green varieties; and two good reds are to be found in Red Champagne and Wonderful. Whinham's Industry, being an extra heavy cropper, is the general favourite for picking green for tarts. Fertility and Red Grape are two good varieties of Red Currant, and Versaillaise White is a good White. Three good Black Currants are Boskoop Giant, Victoria, and Black Naples; but make sure that they are free from big-bud or the mite.

The Vegetable Garden.

Seakale. — The foliage having died down, it should be cleared away, the ground cleared of weeds, and, if available, a dressing of seaweed be given to the crop. A portion of the crop intended for forcing should be lifted and planted in rather light soil in a packing-case or bed where it can be covered over to exclude the light. Keep rather on the dry side, with a temperature of about 50°.

Swedes.—These should now be lifted and pitted or stored in a cool cellar among sand.

Protecting Celery.—Sharp frosts may occur now at any time, and Celery, if not protected, is sure to suffer. I find nothing better for the purpose than Wheat straw laid on lengthwise, and moved down to the base of the trench when the frost yields.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

HINTS FOR EXHIBITORS.

During the first part of November the principal shows will be held in the Midland and Southern Counties. Further North, the other important exhibitions will follow closely, so that in the course of about three weeks dozens of magnificent displays will gladden the eyes of thousands of the general public and cause much joy in the hearts of enthusiastic growers. The latter include a big percentage of amateur cultivators, who have, in late years, grown some remarkably fine flowers. One amateur, who lives close to the writer, is now flowering his second collection of plants. He has only given his attention to them for three years altogether, and I have never seen any plants grown by a professional that bore finer blooms, nor specimens that were cleaner or healthier. He is a very intelligent cultivator, loves his plants, and spares no trouble in order to get them as perfect as possible.

No doubt there will be many readers of The Garden who are showing for the first time this autumn. If they are content to enter in a few classes only, and so make them as strong as possible, they will be more successful than if they weakened the collections of blooms by entering many classes and being obliged to fill them. Very popular classes are those providing for six cut blooms on long stems, to be staged in vases, six of a yellow or a like number of a white variety being specified. Owing to the number of one variety being six, few growers are able to stage that number, so that an amateur will have a good chance of securing a prize if he stages nice blooms, even in size, fresh, and of rich colour. The most telling varieties for vases are yellow, white, rich crimson, yellow and bronze, and pink and white. Dull chestnuts, faded reddish bronze and badly-coloured specimens of amaranth and purple should not be staged unless in every case blooms of these are available at their best. Single-flowered varieties seem very easy to stage in vases, and they are more adaptable than the heavy blooms of the Japanese section; but the cultivator should avoid placing them so that they look straggly. On the other hand, spread out the flowers just enough to show off each one to the very best advantage. Take wedge-shaped blocks of wood to the show, so that trained specimen plants can be tilted forward a little; then both judges and public have a better view of them. Two blocks to each pot are required.

There is a tendency of late to build up groups of Chrysanthemums on tall erections such as drain-pipes, tripods, even boxes, and big flower-pots. The inside portion of such groups, when closely examined, looks very ugly. Amateur exhibitors should do their best to be original, and stage low groups; they are much more effective than the tall ones, when the full beauty of the highest and back blooms cannot be examined.

Groups of Single-Flowered Varieties look quite charming when neatly arranged. It is only during very recent years that classes have been provided for this section in generous numbers. The first groups the writer saw were entirely spoiled through overcrowding. They contained lovely plants, a single specimen of which would have had a better appearance than the whole group. The flowers in the groups were simply crushed together. This autumn exhibitors should avoid overcrowding, and employ only their very best plants. Never mind about producing a formal group, nice and even from centre to edge; have lightness of arrangement and harmony of colour with a neat finish; then a success will be scored. Avon.

THE FRUIT GARDEN.

RENOVATING OLD VINES.

[*In Answer to a Correspondent.*]

As this is the season of the year for dealing with the roots and borders of Vines which are in a poor condition of health, whether the Vines be young or old, and as the information how best to deal with such Vines would be likely to be useful to many readers, I propose, with the Editor's permission, to go into the subject in greater detail than would be possible in reply to a question.

I am a firm believer in the strong recuperative powers of old Vines when given a chance by generous treatment in the way of pruning their roots and replanting in the best possible Vine soil, coupled with rest in spring and light cropping the first year afterwards. There are many Vine-growers, amateurs especially, who consider no labour too great, and will spare no pains in affording all possible help to their Vines in the way of attending to their foliage and fruit, and in ventilating, watering, &c., but who practically forget the existence of roots, or the want of them, and then wonder how it is that their Vines so often fail to produce satisfactory crops. It is not necessary to lay stress on or to emphasise the fact that success in Grape-growing depends in the first place on the quantity, health and strength of the roots of the Vines. Without such roots it is quite impossible to produce satisfactory crops, and the cause of failure in certainly seven cases out of ten will be found to be due to this cause. A successful Grape-grower ought to know, and does know, as much, or more, about the condition of the roots of his Vines than he does about the Vines themselves.

Your correspondent's Vines are old, and he finds out that the roots are deeply buried (a matter of about three feet, he thinks), and this has been done by annual top-dressings over a series of years without taking little or any of the old top-dressings off before adding the new. A gardener friend advises him to root out the old Vines and plant new ones. There are certain objections to this, and I do not think it is necessary. One is that the owner is only tenant for life. Other reasons are the extra expense entailed and the loss of a full crop for at least three or four years; moreover, there is a certain loss of quality in the flavour of the Grapes, as it is well known that old Vines produce Grapes of much richer quality and flavour than do young ones, and this counts for much with those who value quality of flavour more than mere size of bunch and berry.

The treatment I recommend your correspondent to adopt is the following, and I am confident he will not regret doing so provided the work is well and carefully carried out. Before anything is done to the border, let the new Vine compost in which the roots are to be replanted be got ready, so that there will be no undue exposure of the roots while the work is in progress. This compost should consist of the following items, and there should be as much of it prepared as will give a dressing over all the roots to the depth of 5 inches, not including that under the roots. The size of the border to dress will determine the quantity of soil required. To one cartload of turfy loam from an old pasture field (cutting off the grass as close as possible—the turves should not be cut deeper than 4 inches) add two barrow-loads of old brick ends broken to the size of hens' eggs. Add the same quantity of old mortar rubble, broken in the same way, also a bushel of quarter-inch bones, half a bushel of bone-meal, one bushel of lime and half a bushel of soot. Mix up well together, and lay by in a heap in a dry place ready for the time when it is wanted. The chief essential necessary in such a compost is the provision of conditions favourable for the formation of abundance of new roots—not so much rich soil for nourishing the roots. This can be added afterwards in the way of liquid manures.

Treatment of the Border.—Clear away all the surface soil of the border (no matter how much of it there may be) until a good body of roots is come to. Expose all these to within, say, 4 feet of the stems of the Vines. Examine every root. All those which are found diseased or cankered should be cut back to a healthy part. All long and fibreless roots should be shortened to within 5 feet of the base of the Vine stem, and all the tip ends of the smaller roots also should be cut back. Clear away the old soil from under these roots to the foundation and drainage of the border. This latter must be efficient, and probably is. (If the subsoil is gravel or some other open material through which water passes freely, no concrete or other material is wanted for the bottom of the border.) Put down a layer of the roughest parts of the compost under the roots with some small on top, and bed the roots (after they have been pruned) in the compost, adding more until the roots have been buried 5 inches deep. Tread the compost down firmly. The surface of the border from top to bottom should have a fall of 4 inches.

I mentioned in the foregoing that the roots of the Vines should not be disturbed within 4 feet of the stem of the Vines; but that is not to say that the old top soil down to a body of roots should not be removed. It should be, and a layer of the new compost laid over these roots to the depth of 5 inches; but the roots themselves in this part should not be disturbed. In your correspondent's case the roots are practically all inside, and he need not trouble about the recently added outside border this year; but in a couple of years' time it will pay him to serve this in the same way.

As soon as the top-dressing is finished, the border should have a good watering with clear water to settle the soil over the Vine roots. The border should at the same time be covered over with fresh leaves to the depth of 6 inches. Clean, dry straw will do if leaves are not available. Let this remain on until the end of April, when it should be removed and a mulching of short, well-decayed manure substituted for it. The border should also at this time have its first soaking of water. Towards June he will find the new soil will be filling with young roots. These may then be fed with liquid manure, applied once a fortnight or three weeks, according to whether the weather is dry or the reverse.

A Word as to the Treatment of the Vines.—Do not force them into growth in spring, but let growth come on slowly and in a natural way, without any artificial heat to speak of in the day-time, but a little must be provided at night. Let the Vines carry a light crop for the first year. They will carry a full crop the second year. O. T.

NURSERY NOTES.

MESSRS. W. SEABROOK AND SONS.

IT was a great pleasure for us to visit the nurseries of Messrs. W. Seabrook and Sons at Chelmsford on a gloriously sunny day early in October, after a lapse of some fourteen years. Naturally, we were prepared to see some changes, but hardly anticipated the wonderful strides that the firm has made during that time. The nurseries as we used to know them comprised about twenty acres; but so rapid has been the increase of business that now well-nigh a hundred acres are needed to meet the demands of the firm's customers, and several other large fields of good virgin soil are ear-marked for future developments that are certain to accrue so long as the business is conducted on the same up-to-date lines that now prevail.

The senior partner of the firm, Mr. W. Seabrook, who is well over sixty years of age, has devoted a strenuous life to the study of fruit-growing and the raising of fruit trees, and was one of the pioneers of the cordon system, planting large plots with this class of tree before other market-growers had scarcely heard of them. Bush trees on dwarfing stocks, too, he long ago saw the possibilities of, but he also realised that to secure the best results from them, and to induce them to crop at an early age, particularly such varieties of Apples as Cox's Orange Pippin and Blenheim Orange, more than usual care was necessary in the selection of the stocks on which they were budded or grafted. With this end in view he started experimenting, and the result is that nowhere hardly in the country is Cox's Orange Pippin grown better than it is here. At the Boreham nurseries, some three miles out of Chelmsford and alongside the ancient Roman road from London to Colchester, both market fruit and young fruit trees for stocking orchards and gardens are grown, so that the would-be purchaser can see how the young trees thrive and crop on the stocks which the firm uses, and which have been selected as a result of many years' experience. In one field we were particularly interested in some ten acres of five year old bush trees of Cox's Orange Pippin. Every tree was carrying a really wonderful crop of fruit, in some instances as much as half a bushel, and when we remember that the market value of these is just now about £1 a bushel, the value of trees on the proper stock will be patent to all. Every other kind of Apple, Pear and Plum for which there is a demand is worked on stocks that have been found most suitable, hence customers may rely on getting trees from this source that will do well when planted, and give quick and bounteous returns in the way of fruit. To give readers some idea of the demand that there is for these trees, we may mention that we saw no fewer than 250,000 Apple stocks that had been either budded or grafted this year, and these will be trained into cordons, espaliers, bush, pyramid, standard or half-standard trees, according to their suitability and the demand that arises for them. Planted in long rows of ample width, it is a comparatively easy matter to keep the soil well tilled with horse-drawn implements, and scarcely a weed could be found among any of the nursery stock. What was of even greater moment to prospective purchasers, however, was the entire absence of disease and American blight. We were careful to keep a sharp look-out for serious pests of this kind, but they were not to be found.

In another large field we were particularly interested in some twenty thousand Black Currant bushes that have been planted out as a permanent crop. As most of our readers are aware, the curse of Black Currants in late years has been the big-bud mite, a pest that has caused many thousands of pounds' worth of damage to fruit plantations in all parts of the country. The variety which Messrs. Seabrook have planted so extensively is named Seabrook's Black. Although cultivated by the firm for market purposes for at least thirty years, bushes have not, previous to this year, been offered for sale. During the whole of that thirty years Messrs. Seabrook had never known it to be attacked by big-bud mite, possibly due, they thought, to the fact that they had not grown any other variety attacked by the pest near it. However, seven years ago it was suggested to them that it might prove immune, and to test it the firm arranged for a good number of bushes to be planted in another grower's field, between mite-infested bushes and in the very soil whence Baldwin's, badly attacked by the pest, had been grubbed. Each year a report has been made, and each year it has been to the effect that Seabrook's Black is quite free of the pest. Certainly there was not a trace of it when we saw the bushes and nursery stock, and as it is a vigorous grower, free cropper and of good quality, it should prove of great value to amateurs, professional gardeners and market-growers alike.

In addition to all kinds of fruit trees, the firm has, in recent years, taken up the raising of Roses, and this branch of the business is increasing as rapidly as the fruit tree section. At the time of our visit we noticed good healthy stocks of all the best bush, Polyantha, standard, weeping standard and Rambler varieties, and, were space at our disposal, much might be said about these. We left the nurseries, after a most enjoyable and interesting day, convinced that those of our readers who require fruit trees or Roses can with every confidence place their orders with this business-like and up-to-date firm.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ROMNEYA AND CARNATION (*J. C. H.*).—In your locality you might lift and divide the Romneya at once, detaching any of the long or extending roots, and, cutting them into sections an inch or more long, start them to grow in the greenhouse. If the soil of your Carnation border is infested by eelworm, it is highly probable that the plants also are infested, in which case new stock would be required. Had you sent us some of the failing plants, we could have decided the point for you. Are you sure the soil is free of wireworm—the worst of all soil pests to the Carnation? Apterite and Soilfume are two of the soil fumigants that may be applied according to instructions. These destroy many of the pests common to garden soils. In your case the addition of lime or lias clay to the border would be of the utmost value, since the Carnation is not usually a permanent success in very sandy soils.

HARDY BORDER CHRYSANTHEMUMS (*E. L. C. F.*).—The cultural details required for the above are simple enough, and, as a rule, a bed of moderately rich loamy soil deeply worked and manured suffices. In many districts the plants perish in winter-time, not because lacking hardiness generally, but because they are kept soft and evergreen and in a growing state far into the winter months, when they should be resting. In these circumstances it is best to root cuttings afresh, February and March being a good time, planting them out in April or early May. For this purpose lift a plant of each variety in November, and protect in a frame till required. When the fresh young shoots are about two inches long, these may be used as cuttings. The following are useful and free-flowering: Carrie and Horace Martin, yellow; Crimson Polly and Goacher's Crimson, crimson; Crimson Marie Massé, bronze crimson; Nina Blick, reddish bronze; Caledonia and White Massé, whites; Perle Rose; Improved Massé, rosy lilac; Hector, mauve and pink; Flora, yellow; Mme. E. Lefort, orange; and La Luxembourg, bronze. The last three named are free-flowering Pompons, and these are usually of the hardiest class.

SLUG-PROOF PLANTS (*R. O.*).—By your request for herbaceous plants quite immune from the attacks of slugs you have set us rather a formidable task. It is true that this pest may have a special fondness for certain groups of plants, but with a garden free of these it is more than likely that attention might be directed to other plants previously ignored. You appear to realise that the adjacent hedges are infested by the pest, though you are adopting no measure to trap him there. We think, however, were you to lay down slates, boards, or damp sacks near the hedges and examine them twice a week, you would get some surprising hauls. Or you might heavily dust the base of the hedgerows with lime or treat it with Vaporite, and, having by these means ridded your garden of the pest, set out to enjoy not what the slugs rejected, but all the best a garden should contain. In the meantime you might experiment by trying such things as Hepaticas, Christmas Roses, a large number of Flag Irises, Potentillas, the rather important race of white Marguerites, Chrysanthemum maximum and varieties, herbaceous Phloxes, Pentstemon barbatus, Oriental and other Poppies, Aconitums, Heleniums generally, Helianthus or Sunflower, Achillea Ptarmica and its varieties, Lenten Roses, Anchusa Dropmore variety, Columbines and Michaelmas Daisies. The young shoots of such plants as Campanula, Delphinium, Pyrethrum and all the Pink tribe are greedily devoured by the slug, while not infrequently the flowers of many plants whose leaves are unattacked are cleared off wholesale. Hence it would appear that in a land of plenty, only the choicest morsels are selected, though with any signs of scarceness it takes what it can get. Plants containing poison, or others whose juices are of a decidedly acid nature, may be objected to for these reasons.

HERBACEOUS PLANTS FOR TOWN GARDEN (*Interested*).—There is such a wealth of subjects flowering in July and August that we think quite the best thing for you to do would be to purchase "The Hardy Flower Book," by E. H. Jenkins, to be had, post free, from our Publishing Department, for 2s. 10d. This invaluable book gives rather complete lists of all the best herbaceous plants, together with their height, colour, time of flowering and other things, with much other information of supreme importance to those who garden chiefly in the open air. To have a border effective over a long period, plantings of Irises to flower in May, June and July should be made, to be followed by Pyrethrums, single and double in variety, hybrid Columbines, Achilleas, a good selection of Delphiniums, Gaillardias, Pæonies, Oriental Poppies in variety, Heucheras of sorts, Monarda, Lychnis chalcedonica, and such like. For July and August the best things would be herbaceous Phloxes, Sunflowers, Campanula carpatica in half-a-dozen sorts, Scabiosa caucasica, Eryngium, Echinops, Red-hot Pokers, Aster Amellus in variety, A. ericoides, and a good set of Michaelmas Daisies. Such good and useful Lilies as umbellatum, croceum, excelsum, candidum, and the forms of speciosum should also find place, also Montbretias, which are so effective and graceful when in flower. For borders 6 feet wide it would be a good plan to arrange the plants in groups, say, not less than three plants to a group, three lines of groups alternately disposed being sufficient for the width named. The list of flowering shrubs to which you refer is of a somewhat mixed character, some plants being quite unsuitable to the border. If, however, you send us particulars of the width and length of the border, we will give you a suitable list of shrubs for it. With suitable shrubs might be associated Lilies, Irises, Daffodils and other plants to flower at varying seasons of the year.

THE GREENHOUSE.

TREATMENT OF DRACÆNA AUSTRALIS (*Old Reader*).—Your plant of Dracæna australis, whose correct name, by the way, is Cordyline australis, is not likely to survive the winter in the open ground. By far the better way will be to winter it in a cool room where it is safe from frost.

FERN FRONDS DISFIGURED (*Old Reader*).—There are both thrips and scale on the Fern fronds sent. Thrips can be readily kept under by vaporising with one of the nicotine compounds, but for the scale the fronds must be sponged with a solution of soft soap and water, at the same time loosening the largest of the scales with a pointed stick. In carrying this out, care must be taken not to injure the fronds.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

To Our Readers.—It is with pleasure that we are able to announce that Mr. George Dillistone, the talented landscape gardener on the staff of Messrs. R. Wallace and Co., has kindly consented to write us a series of articles on the construction of rock gardens. These will be illustrated by sketch plans of rock gardens actually constructed under Mr. Dillistone's supervision, and photographs showing the work when completed. To those interested in rock gardens these articles will prove of more than usual interest, and we trust our readers will make them as widely known as possible. We hope to publish the first in our next issue.

Preparation for Spring Bedding.—Although in some places the summer bedding is still looking little the worse for wear, such beds or borders should now be cleared if it is intended to fill them with spring bedding plants. It is important that Wallflowers, Forget-me-nots, Alyssums, Primulas and similar plants should be put out before the ground gets cold, so that they may become established, as it greatly assists them to stand the winter.

Bananas Fruiting at Kew.—When at Kew Gardens most visitors make a point of seeing the Bananas growing in the great Palm House. These are of more than usual interest at present, as three of the plants are maturing large bunches of fruits and two other plants are in flower. The largest bunches are forms or varieties of Musa sapientum, Gros Michel and Lacatan. Growing to about thirty feet high, the foliage of the Bananas is always an imposing feature of the Palm House.

Cutting Winter Cherry for Decoration.—Where the Winter Cherry, or Physalis, is grown for winter decoration for vases, it should now be cut, if this has not already been done, as the bladders will commence to perish if left out in the open much longer. Cut the shoots, tie them in small bunches, and hang them in a dry place, where the leaves which are now ripe will soon drop off, leaving the stems of bright-coloured bladders, which are so valuable either alone or mixed with other dried flowers.

A Beautiful Greenhouse Plant.—A plant that has recently come to the front, although by no means new, is Lindenbergia grandiflora. It is a most valuable plant for the greenhouse with its bright yellow, Musk-shaped flowers, which are borne in profusion, and last in bloom for about three months. A well-grown batch of this desirable plant, mixed with the beautiful Salvia azurea, is one of the chief features of the conservatory at the Botanic Gardens, Cambridge, at the present time, where it is greatly admired. It is of easy cultivation under greenhouse treatment, but requires a little shade during the summer. The sprays last for a considerable time when cut and placed in water, but the colour does not show up to advantage under artificial light.

Blue Salvias Flowering Late.—These plants have been a great success in the garden this year. The season has evidently been such as to induce healthy growth of medium strength; the plants are, in most instances, dwarf and very freely flowered. In several gardens we have lately noticed grand displays of blossom, and it seemed a pity to disturb the plants, yet it was becoming necessary work, as nearly all the other kinds of bedding-out subjects had lost their freshness, and all must give place to the spring-flowering ones.

Autumn-Flowering Bulbs.—Few plants are more valuable than the Sternbergias. Whether it is in the rockery, borders, or on the edge of shrubberies, they brighten it up with their beautiful yellow, Crocus-like flowers at this season. Sternbergia lutea and its variety angustifolia are two of the best, being very free-flowering and soon establishing themselves; but S. macrantha, with its larger flowers, which are a beautiful golden yellow, should on no account be left out. Most of the Sternbergias are very suitable for conservatory decoration when grown in deep pans or pots.

Mr. Hugh Dickson.—On the next page we have pleasure in publishing a portrait of Mr. Hugh Dickson, president of the National Sweet Pea Society for 1913–14. Mr. Dickson is a member of the firm of Messrs. Alexander Dickson and Sons of Newtownards, managing with considerable skill their seed and bulb business at Belfast. He is one of the best-known men in the horticultural trade, and his quiet, unobtrusive manner has endeared him to all who have had the pleasure of meeting him. The National Sweet Pea Society is to be congratulated on its selection of Mr. Dickson as president.

Strawberries in November.—We were much interested a few days ago when visiting a Dulwich garden to observe a bed of Strawberries still carrying a presentable crop of ripening fruits. The variety was St. Antoine de Padoue, one of the best of the hybrid autumnal Strawberries. The flower-buds had been removed from the plants until early in September, when the fruits were allowed to mature. The berries are globular and of bright red colour, while the plants are as vigorous as the summer-fruiting varieties. The bed in question is in a sheltered spot on a warm border, and the plants each autumn bear freely until the frosts set in.

Storing Lobelias for the Winter.—Lobelia fulgens, L. cardinalis and others of that type cannot always be relied upon to stand the winter outside. They should now be lifted, placed in boxes in sandy soil, and stored in a fairly dry place, not necessarily a greenhouse, but a certain amount of light is preferable to a dark shed. Although it is important that they should be kept from excessive wet, it is also important that they should not be allowed to get too dry. They can be easily increased by dividing the plants in the spring, or seed sown now will make better plants for putting out next summer than those raised from seed next spring.

CORRESPONDENCE.

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

Prizes for Front Gardens.—The village in which I live is not at all beautiful, and most of the gardens are neglected or unattractive. By way of encouraging the inhabitants to interest themselves in beautifying the village, I think of offering three prizes for the gardens and house fronts which are kept most satisfactorily all the year round. Some of your contributors must have sympathy with, and practical experience in, such a scheme, and I shall be most grateful if I may be allowed to benefit by that sympathy and experience in the framing of rules which will give all the competitors a fair chance.—MARGUERITE.

Is the Almond Hardy in Scotland?—At a meeting of the Scottish Horticultural Association, held some months ago, when the merits of ornamental trees and shrubs suited for villa gardens were being discussed, several members testified that the Almond is not hardy in the neighbourhood of Edinburgh. As the Almond is such a desirable subject, both on account of its beauty and its early flowering, it would be interesting and instructive if readers of THE GARDEN North of the Tweed who have grown, or attempted to grow, it would give their fellow-readers the benefit of their experience, indicating the district where such experience has been gained.—CALEDONIA.

Gentiana verna Flowering Late.—I have been much interested by Mr. Malby's notes on Gentiana verna in last week's issue, page 548. I should be glad to hear from him or any of your readers whether it is common for this plant to bloom twice in the year. During September and October of this year I have had eight flowers on a small patch of the Gentian, which bloomed fairly freely in the spring, and there is a flower just opening on a plant which I bought as G. angulosa, though I can detect little or no difference between it and G. verna. One regards this Gentian as so essentially a spring-flowering plant that it is surprising to find it in bloom so late in the year. G. verna is growing in sandy loam in a rather shady, moist place, while G. angulosa is in sandstone moraine fully open to the sun.—A. E. BACKHOUSE, *Darlington.*

Alpines Flowering in October.—Reading your list of alpine and rockery plants in bloom on October 1 in your issue for October 18, page 525, tempts me to send you a list of plants from a small garden 200 feet by 30 feet in the North-West, all in the open: Alyssum sinuatum, yellow; Antirrhinum gibraltaricum, reddish; Arabis albida flore pleno, white; Astrantia gracilis, white; Borago laxiflora, pale blue; Campanula Burghaltii, blue-white; C. carpatica, blue; C. garganica, pale blue; C. glomerata hybrid, deep blue; C. muralis, blue; C. rotundifolia, blue and white; Cardamine rotundifolia, white; Chrysogonum virginiatum, yellow; Cimicifuga simplex, white; Corydalis lutea alba, whitish yellow; Colchicums, Crocuses, Cyclamen; Dianthus, various; Erica Serlei, white; E. stricta, pink; E. vagans, white; Erigeron glauca, lavender; Erodium Manescavi, red-mauve; Erysimum pulchellum, yellow; Geranium Endressii, pink; G. sanguineum, red; G. striatum, pink veined; Geum rivale Leonard's variety, red; G. r. Orange, Gypsophila Steveni, white; Helianthemums (various), pink-yellow; Hypericum olympicum and H. empetrifolium, yellow; Linaria aequitriloba, purple; L. alpina rosea, rosy; L. anticaria, white and yellow; L. pilosa, purple; Linum, blue; Lysimachia Henryi, yellow; Menziesia polifolia, rosy white; Nepeta Mussinii (two forms), lavender and bluish; Origanum hybridum, pinkish; Oxalis floribunda, pink; O. f. alba, white; Potentilla alpina, white; P. hopwoodiana, P. Miss Willmott, P. minima; Perowskia atriplexifolia, lavender; Plumbago Larpentæ, slaty blue; Polygala Chamæbuxus purpurea; Polygonum affine, reddish; Santolina Chamæcyparissus, yellow; S. pinnata, creamy white; Saxifraga Fortunei, white; Scabiosa pterocephala, pale lavender; Sedum calabricum, pinkish; S. Ewersii, pinkish; S. pulchellum, pinkish; S. spectabile, pink and deep forms; Teucrium Chamædrys, reddish; Tunica Saxifraga, pink; T. S. alba; Veronica corymbosa, deep blue; V. spicata alba, Vinca Double Blue; Violas Bowles' Black, Mrs. Bowles and bosniaca; and Zauschneria, red. Of those mentioned I would specially draw your attention to the following: Alyssum sinuatum, yellow, which has been in bloom since June. Astrantia gracilis, white, similar to, but much finer than, A. minor. Cardamine rotundifolia, white, an old plant, but very fine in early spring. Corydalis lutea, the pale form, is in flower almost all the year round. Plumbago Larpentæ, blue. This plant is fine with the crimson foliage in autumn, grown in the warmest possible position. Veronica corymbosa, deep blue, so named by Mr. S. Arnott, is only 6 inches high, and a choice gem for late flowering. Viola Mrs. Bowles, lavender blue, a most continuous flowerer. The flowers stand up well clear of the foliage. Zauschneria.—I have two forms. The early-blooming one is not so woolly as the other.—T. O. WALKER, *Carnforth.*

MR. HUGH DICKSON, PRESIDENT OF THE NATIONAL SWEET PEA SOCIETY FOR 1913-14. (*See previous page.*)

The Persian Cyclamen as a Biennial.—Mr. Blair's experience with two years old Cyclamen (see page 536, October 25 issue) differs in several respects so much from my experience, and I have no doubt also from that of other growers, that in fairness to those whose knowledge of the plant is slight, something should be put forward in favour of these. The treatment of second-year plants varies so considerably, and yet may result in each case in success, that one is forced to conclude that the treatment given by your correspondent has in some particulars been incorrect, the more so if the plants are "easily beaten" by young plants. Ours receive no special culture as regards soil and manure from that given to the usual run of soft-wooded plants, only being treated to a warm temperature while growing, and the difference is all in their favour. I have just measured a few of the largest specimens, which are each 2 feet 3 inches across, and from each I enclose a leaf for your inspection. The flowers are not yet out, but I expect them to be quite as large as those produced by the younger plants, one of which gave us last year's flowers up to 6 inches in diameter, and another, a ragged double, almost as large. I may add that Cyclamens succeed best here grown on as stove plants, in a low pit, along with table Crotons and Dracænas. In the autumn they are transferred to a cooler pit along with Primulas and Geraniums to flower. I differ only in these respects from Mr. Blair, and concur with him in advising the more general cultivation of these charming flowers, so very useful for cutting, and the plants for massing in the house.—R. P. BROTHERSTON, *Prestonkirk, N.B.*

—— I quite agree with Mr. Blair that it is best to grow the Cyclamen as a biennial. We grow it here on that principle, with very good results, and never think of saving any old corms. We sow our seeds about the third week in July, placing them straight away in a cold frame. About the first week in September we place them in a temperature of 50°, and by the second week in October prick them off into 2-inch pots. We believe in pricking off early, as we find we get much larger plants. Of course, extra care is required in watering to keep the soil from becoming sour. We then place them in a temperature of 60°, keeping them close to the glass. In this position we keep them until about the first week in February, when they will be found to have filled their pots with roots and made about eight or nine leaves. We then pot them into 4-inch and 4½-inch pots, according to strength, keeping them still in a temperature of 60°. About the first week in June we pot them into 6-inch pots, placing them straight into a cold frame. They remain there until the first week in September; then we house them, as it is desirable for us to have a number of them in bloom by the first week in November. They continue to bloom until the end of April. What more does one want than to have them in bloom for six months? In February of this year we had one plant carrying seventy-one fully-expanded blooms, and still showing more buds. Some of the blooms had six and seven petals, and measured 6 inches from tip to tip. We had several plants with forty, fifty, sixty and sixty-five blooms; so who says it is impossible to have fine plants by this method? We have them now carrying fourteen to eighteen blooms.—F. C. WILLIE, *The Gardens, Great Walstead, Lindfield, Sussex*

Rose Peace.—I wonder if "G. G." (on page 534) is alluding to the Tea-scented variety? I assume he is, as I am not aware that there are two varieties of the same name. I find this an excellent Rose for outdoors, plants of dwarf growth flowering abundantly, with huge petals of a pale citron colour, which under glass would be paler in tint.—Pax.

Mildew on Roses.—Many complaints have reached me this year as to the extent Roses have been attacked by mildew. Even whole localities have been vigorously infested, after much washing of the plants with sulphide of potassium had been done, with no effect of value. As a rule, in other years this chemical has been efficacious; this year in many gardens it has been quite useless. I have at last come across a distinctly effective remedy for this troublesome fungus, viz., Serum, prepared and sent out by Messrs. Gleeson and Co., Watford. Whatever it contains, it is wonderfully effective. Early in October many of my plants were badly attacked by mildew. I applied Serum as directed, 2oz. to a gallon of cold soft water, well stirred, thoroughly drenching the plants. The result was marvellous. New leaves commenced to grow from the points of badly-infested shoots within two days, and the plants have continued quite free from fungus. Such a remedy is indeed a boon to Rose-growers.—E. M.

The War on Wasps.—In your issue of October 25, page 534, your correspondent Mr. Copeland seeks information from fellow-readers of The Garden of their methods in catching queen wasps. My own method is to watch the Gooseberry bushes in the spring when they are in bloom, for, on the queens waking up from their winter's sleep, they seem attracted to the Gooseberry bloom to feed before commencing nest-building. If while walking past the bushes queens are seen, keep an eye on them till they settle on a bloom, when they may generally be knocked down and killed; or by pulling a piece of elastic tight and letting one end go with a slash at them it will often kill them while they are busy getting nectar from a flower. In this way, if the bushes are often looked at, great numbers may be killed where they are plentiful. Also in the autumn keep a sharp look-out in all kinds of buildings, outhouses, or even dwelling-houses, for the queens get in all sorts of places under cover for their winter's sleep.—S. K.

—— In response to your invitation on page 534, issue October 25, I enclose the following, for the damage done to fruit by these pests, especially during a dry season like the past summer has been, certainly calls for some really well-organised plan of destruction. We have destroyed considerably over a hundred nests with cyanide in and around the garden here, and in many were quantities of young queens; but, notwithstanding that, great damage has been done. In reply to questions asked by Mr. Copeland, (1) I would suggest that in large fruit-growing areas the growers themselves combine and award a substantial prize for the greatest number of queen wasps sent in by a certain date (*e.g.*, early in June); and in places where fruit is not grown on such a large scale, the local horticultural societies might adopt the same plan. The latter is already carried out in some places, and though only on a very moderate scale, the results must indeed be a gain in those particular districts. In gardens (private or otherwise) remuneration should be given for all queen wasps killed by members of the staff, for money so spent would unquestionably be well laid out. With the growing popularity in school gardening, managers or local authorities could perhaps be persuaded to award prizes to the children for the greatest number of these pests caught. A case in which the children figured in this way came under the writer's notice some time ago. A horticultural society in Berkshire offered a small prize for the greatest number of queen wasps sent in by a certain date by any child in the district. The winner of the first prize had captured between five and six hundred, to say nothing of the other entrants! Such results as these surely speak for themselves. (2) As regards queen wasps entering bottles, very few indeed were caught here during the summer, either in bottles or other traps. The spring and autumn, of course, are the best times to capture queens, *i.e.*, when they are searching for places or material for nesting, or when they are preparing to hibernate, such presumably being the case when so many were recently caught in a stokehole, for such places as potting-sheds and stokeholes are ideal for the purpose. (3) A good trap can be made by the use of two hand-lights, one resting on the other, the lower one raised from the ground on bricks and having holes in the lid to enable the wasps to pass through to the upper light (which must be hole-proof). To entice the pests to enter, portions of fruit are placed under the lower light, and more is put in the upper one, to which they will naturally ascend. To destroy the insects when a large number are captured, sulphur is placed below and set alight, the fumes rising and having the desired effect. Several such traps have been used here this summer, with great success.—H. Turner, *Serlby Gardens, Bawtry.*

A Good Spring Bed.—One of the most simple, and at the same time one of the most pleasing, spring beds which it has been my privilege to plant was composed of the following subjects: Golden Polyanthuses were used to form a thick carpet, the plants being placed thickly so that the outer leaves completely covered the soil. Between the Polyanthus roots the scarlet Tulip Artus was used. The bulbs of this Tulip always come to hand in excellent condition, and it is an ideal variety for bedding purposes. The great thing in planting bulbs is to make sure that they are resting on the soil at the bottom of the hole, and also that they are planted at an even depth, thereby ensuring an even display of flowers. The Polyanthuses can be raised from seed sown in pans in May, and afterwards transplanted in a shady position until the beds are ready. They may also be increased by division. A fresh stock from seed is, however, preferable in most cases.—Colin Ruse, *Sulhamstead.*

FORTHCOMING EVENTS.

November 10.—United Horticultural Benefit and Provident Society's Meeting.

November 11.—Shows at Belfast (two days) and Birmingham (three days).

November 12.—East Anglian Horticultural Club's Meeting. Shows at Buxton, Gainsborough (two days), Faversham (two days) and Dulwich (two days).

November 13.—Shows at Nottingham (three days), Sheffield (three days), Romford, Newport (Monmouth), and Scottish Horticultural Association's Show (three days).

November 14.—Leeds Paxton Show (two days). Shows at Rochdale (two days), Huddersfield (two days) and Bradford (two days).

November 15.—Shows at Burton-on-Trent and Batley.

HOW TO TREAT GRASS BANKS.

It is well within the memory of all who garden for pleasure that in their heyday grass banks formed a notable feature in garden design. These were usually introduced where a transition in level occurred, and were probably considered the most satisfactory method of dealing with an awkward situation. Many objections might be taken to these, but it will suffice for the present to mention their lack of interest and their difficulty of upkeep, which, even under the most favourable conditions, can never rival a level lawn of close-cut turf. With the present rage for hardy plants it must inevitably follow that the space usurped by grass banks will be coveted for something choicer, and in reviewing the various methods for beautifying such a position, the grass bank appears in its true light and is, after all, only a makeshift. Were such a bank placed at some distance from the house, as when it occurs as part of the boundary, a semi-wild treatment would undoubtedly appeal, and if massed with Rambler Roses of the wichuraiana type and with some regard to the harmonious arrangement of the colours, such a bank would become an impressive feature and call for considerably less attention than the weekly ordeal of mowing grass. If the space is too restricted for Roses of this class, the bank may still be rendered more interesting by introducing hardy bulbs—Daffodils, Muscari Heavenly Blue, Anemone apennina, Chionodoxas, Scillas—and with Autumn Crocuses and Colchicums a moderately long season of flowers would result. The grass can be mown at least once in the interval between the flowering of the spring and autumn bulbs.

When banks arise close to the house, it is often more feasible to support them with walls, and so throw the ground into well-ordered terraces. A scheme of this character offers great inducement to the ardent horticulturist, for with the wall built in mortar, either with or without the accessory balustrade, opportunity is presented for clothing the same with the finest types of Roses, climbing plants and half-hardy shrubs. Such a wall will foster only subjects that we have difficulty in cultivating in the open, or whose beauty can only be seen to advantage when given the support and shelter of a wall. Walls of this character can also be profitably utilised by the addition of a narrow border at the foot wherein to plant subjects of doubtful hardihood, including Crinums, Watsonia, Romneya, Roscoea, Gerbera, Agapanthus mooreanus, Cushion Iris and Iris stylosa, Tricyrtis hirta and Antholyza.

It is frequently found desirable to afford a thorough change in the garden scheme, and in converting such a bank into a home for hardy subjects it is well to bear in mind the picturesque effect of a wall planned and planted on the dry-wall principle. Nearly any kind of stone answers this purpose. Soil is used as the binding material, and into the wall interstices alpine plants are introduced as the work proceeds, so that where the wall is built on principles that have the welfare of the plants at heart, a riot of alpine life and beauty bursts from the wall face and instinctively a feature of perennial interest is opened up, and the charm and beauty of the garden gain immeasurably by its presence. Thomas Smith.

Coombe Court Gardens, Kingston-on-Thames.

TREES AND SHRUBS.

CLERODENDRON FŒTIDUM.

WHILE most of the members of the Clerodendron family require tropical or warm greenhouse treatment, there are three species, all natives of the Far East, which are fairly hardy in this country. These are C. trichotomum (the Kusagi of China and Japan), C. Fargesii (a native of China)

CLERODENDRON FŒTIDUM.

and the subject of this note, also from China. In the milder parts of the country C. fœtidum forms a shrub and flowers freely in the open. In the London district the stems are cut down to the ground during most winters, but this only seems to induce the plants to throw up more vigorous growths. These are often 3 feet to 4 feet in height, very sturdy, with large, deep green, glossy leaves and a terminal head of closely-packed blossoms 4 inches to 5 inches across. The colour of the flowers is bright rosy red. The name fœtidum is very misleading, for the flowers emit a pleasing fragrance, and it is only when the stems are cut or the leaves bruised that the unpleasant smell, denoted by the name, is perceptible. C. Bungei is a name by which the plant is sometimes known. Propagation is readily effected by pieces of the root. Last winter, when forking through the shrubbery border where the plants are growing, some of the roots were broken, and now the surrounding ground is freely sprinkled with young plants. The flowers of this shrub are often sent for naming, owing, no doubt, to the fact that the plant readily establishes itself and throws up many suckers from the roots. The fragrance of the flowers has been likened to that of Honeysuckle.

A RARE CHINESE HORNBEAM.

(CARPINUS POLYNEURA.)

AMONG the numerous trees which exploration in China has brought to light during the last twenty-five years, few are more interesting to the arboriculturist than Carpinus polyneura. We are indebted to Mr. Augustine Henry for its introduction, he having sent home seeds from Central China in 1889. It is a rare tree, about thirty feet in height, growing on the mountains of Eastern Szechuan and Western Hupeh. Only one raised from this sending of seeds is now in cultivation at Kew. It is now about seventeen feet in height. The tree flowers and produces fruits almost every year, but until the autumn of 1912 no mature seeds were found. Among a quantity of seeds collected last autumn and sown in October as soon as ripe, several have germinated. Though there are no fruits on the tree this year, we may reasonably hope that as the specimen grows, having once produced seeds, the same thing may be expected again during a favourable season.

The Chinese Hornbeam is distinguished from other species of the genus by the comparatively small and smooth, flat leaves, the Hornbeams generally being distinguished by the plicate leaves. The leaves of Carpinus polyneura are not more than 2½ inches long by an inch wide, the only other species with as small or smaller leaves being C. orientalis, a native of South-Eastern Europe and Western Asia.

SPIRÆA AITCHISONII.

THIS is one of the best of the tall-growing shrubby Spiræas or Meadow-sweets. It is a native of Afghanistan, and grows about ten feet in height. The plants make long, arching growths, which in summer are clothed with handsome pinnate leaves up to a foot in length. The flowering season is July and August, when the large bushes are a pleasing sight with the large terminal panicles, 1½ feet to 2 feet long, consisting of quantities of small, white flowers. This Spiræa makes a good lawn specimen, and is also very effective when massed in large beds or in the shrubbery border.

Seeds, which ripen freely on the bushes, form a ready means of propagation. The plants delight in a deep, loamy soil, with an annual mulching of old decayed manure. By annual pruning in February or March, the grower can, to a considerable extent, restrict the size or otherwise of the bushes. The growths made the previous year should be cut back to within 2 inches or 3 inches of the old wood, unless it is desired to increase the size of the bushes, when correspondingly longer growths must be left. Usually, each year one or two vigorous growths push up from the base; these should be merely topped, cutting out one or two of the old stems as they become exhausted from constant hard pruning. A. O.

THE ROSE GARDEN.

ROSE-GROWING IN TOWN GARDENS.

IT is unnecessary to point out that, in Rose-growing, the town gardener is handicapped beyond his country cousin. He finds this out for himself with the first Crimson Rambler he buys. His season begins with the aphis and ends with the mildew, and all too frequently he lets it go at that. Now, aphis may be readily overcome, and even mildew yields to treatment; therefore, if he be a true enthusiast, he will rise superior to these difficulties, though, in order to do so, he may have to "stoop to conquer" in a rather too literal sense. The situation of his Rose beds is an all-important matter to the suburban grower. Roses delight in an abundance of air and sunshine, and, if his garden offers many places whence these can be obtained, he is exceptionally fortunate. In any case the best position for the beds will be towards the north-west corner of the garden, as far away from the house and walls or fences as space will permit. Here the plants will get the fullest benefit from the early morning sun, and will be sheltered from the north winds.

Soil is, of course, one of the first considerations. It is generally known that the best rooting medium for Roses is a heavy maiden loam, with a liberal admixture of decayed manure. This is the ideal; in actual practice most Roses have to put up with much less. In making up the beds, however, one must always bear in mind that the main requirements of the roots are free drainage, aeration and a constant supply of moisture. The first two are obtained by thoroughly trenching the ground, the last by adding clay where the soil is light. The town Rose-grower should import clay when necessary,

SPIRÆA AITCHISONII.

even before manure, yet few seem to trouble about doing so. Instead of spending all the money on his plants, it would pay the gardener much better, and give infinitely more satisfaction, if he were to lay out half of it in preparing the ground for them.

One of the most important elements of the soil is lime, and this is frequently deficient in town gardens. Roses require an ample supply of it, and, where necessary, it should be added when the beds are made up. For heavy soils slaked lime is best, and should be dug in at the rate of half a pound to the square yard. To light soils add pulverised chalk in the proportion of 2lb. to the square yard. Of course, where the subsoil is chalk, no addition of lime will be required. The earth with which the town gardener has to cope, often enough, consists of old worn-out soil, which previous occupants have thoughtfully enriched with cinder ashes. The only way to deal with this is to entirely remove the top spit, and after the remainder has been dug up and liberally dressed with horse or cow manure (according to whether it is heavy or light), fresh loam must be brought in to replace the soil that was taken away.

Thoroughly trenching and manuring the ground is an actual necessity if Roses are to be grown successfully, and it is far better to make but one Rose bed properly than to have several which are only forked over. The manure used should always be in a well-rotted condition, and it must be free from shavings or other objectionable material. Horse manure from tarred roads should on no account be used, nor any manure to which disinfectants have been added.

Of artificial manures, bone-meal is one of the most useful. It should be applied, when the ground is trenched, at the rate of 1lb. to every three yards, and subsequently used as an autumn dressing combined with sulphate of potash. Take three parts of the bone-meal to one part of potash, sprinkle a small handful around each tree and fork in lightly. For early spring a good manure, and one which is lasting in its effects, is made up as follows: Superphosphate of lime, 12lb.; kainit, 10lb.; Epsom salts, 2lb.; sulphate of iron, 1lb.; and plaster of Paris, 8lb. Mix well together and apply a small handful to each square yard during February or March.

For summer feeding nothing is better than cow manure water, well diluted. Soot water is frequently recommended, but its manurial value is derived only from a small and varying percentage of sulphate of ammonia. Since the latter may be purchased very cheaply, and is cleaner and easier to handle, it is in every way to be preferred. Half an ounce to a gallon of water is a safe proportion, and used thus it is an invaluable stimulant for an exhibitor, as it adds materially to the size and colour of the blooms; but it should only be applied when plants are in bud, allowing an interval of a week or more between the applications. In feeding Roses it must be remembered that stimulants should be used only on established plants that are growing freely, and that the ground should always be in a moist condition before the fertiliser is applied. Another important point is to vary the diet as much as possible, and apply it only in a weak solution. In my next article I will deal with the principal pests of the town Rose garden.

Thornton Heath. P. L. Goddard.

ROSES IN THE WILD GARDEN.

Much has been said and written in favour of what is termed "wild gardening." In some large private gardens a portion of the grounds, generally a considerable distance from the mansion or from the formal garden, is set aside for "natural" gardening. There are a large number of subjects suitable for this work, but none so effective as Roses when allowed to ramble at will. The common Dog Rose, with its shoots laden with flowers, also gives a colour effect with its hips in the autumn. There are many varieties of the wichuraiana and other types that may be used. Big clumps of one kind should be planted. Rosa rugosa is especially suitable where cover is wanted for birds as both pheasants and partridges are fond of the pulp of the fruit.

AN INFORMAL BANK OF ROSE ALBERIC BARBIER.

Of the early-flowering set we have Alberic Barbier, Pink Roamer, Jersey Beauty, Leuchtstern and Blush Rambler, to mention a few. Perhaps the Austrian Copper and Austrian Yellow are worthy of special mention, the colouring when in bold masses being charming. The Japanese Roses (Rosa rugosa) also give a variety of colour. The following are of vigorous growth: Atropurpurea, alba, fimbriata, rubra and repens alba. The latter is of a more graceful habit. Pink wichuraiana, white wichuraiana, wichuraiana rubra, Crimson Rambler and Dorothy Perkins are a few that give a successive display.

In small gardens there are generally odd corners or a tree stump which Roses may be made to trail over. A few varieties that do well anywhere are Dundee Rambler, Virginia Rambler, Félicité Perpétue, Flora, Longworth Rambler and Thalia. For forming hedges or covering unsightly hedges nothing equals the Penzance Briars, of which there are several good varieties. The flowers are followed by large quantities of scarlet hips. A. J. H.

IN A HAMPSHIRE GARDEN.

Some of the Newer Roses.

(*Continued from page 549.*)

Evelyn Dauntesey (S. McGredy and Son, 1911).—A striking Rose of good habit and form; colour, soft salmon pink, and outer petals carmine rose with a deeper centre. After the style of the old Daumark, a sport from La France, but much deeper in colour and stronger in growth. Should make a good exhibition Rose. I remember seeing some very good specimens at Newport (Isle of Wight) Show this last season, exhibited by the Locksheath Nurseries. Their Rose manager thought a great deal of the Rose, and strongly recommended it to me. I have not grown it, but shall do so next season.

Frau Margrethe Moller (Poulsen, 1912).—Another Rose that I have not grown, but that I am told by more than one grower is going to be useful. Messrs. Frank Cant had some fine flowers at the "National." Colour, a good deep pink, with a lighter edge to the petal, fragrant and a good grower. It was described as one of the best of the Continental Roses of 1912.

Ferniehurst (Alex. Dickson and Sons, Limited, 1911).—A beautiful Rose this when you can get it, but it has not been very free-flowering with me. Perhaps its very upright habit is against the free-flowering character. Colour, pale fawn, with a suggestion of pink. A good flower is very well finished, a model in its way, that has the appearance of being carved out of wax. Its foliage is very fine, large and leathery, and a good bronze green. The flower is slightly scented rather than strongly perfumed. The flowers are quite full size.

George Dickson (Alex. Dickson and Sons, 1912).—I have already referred to this Rose at some length in my general review. I only now mention it to say it is the finest exhibition Rose of its colour, and every exhibitor must have it unless he wishes to be severely handicapped.

George Reimers (Soupert et Notting, 1910).—I am afraid after two years' trial this Rose must be said to be of no use for exhibition. It is a good red for the garden, but that is the most that can be said of it here. Further North, where it could grow more slowly, it might occasionally be useful.

Geoffrey Henslow (Alex. Dickson and Sons, Limited, 1912).—This is a very fine piece of colour, a much deeper shade than G. C. Waud, but of the same brilliancy, which is called orange crimson. The flowers are globular, imbricated and of good substance. A fine exhibition flower, a good grower, erect, fairly free-flowering and deliciously scented. Will be confused with the Hybrid Perpetual of the same name, but this, the Hybrid Tea, is to be preferred of the two.

James Ferguson (Ferguson, 1911).—A silvery pink sport from Caroline Testout, with which it

is identical in every other respect. I have had some beautiful flowers of it from my two plants, and it is worth making a note of. It is probably the best of the many Caroline Testout sports.

Jonkheer J. L. Mock (Leenders, 1910).—A fine exhibition Rose, a very deep pink bicolor, of good shape and with a great deal of substance. A fine grower, frequently exhibited, with good, large flowers that are very fragrant. It has, I think, come to stay, and those who have not grown it should try it. In a list of twenty new Hybrid Teas that Mr. Mawley asked the leading growers and amateurs in the kingdom to place in order of merit last autumn for the purposes of his Rose Analysis, this Rose took the high place of fifth in the table, the trade placing it even higher, namely, third. It was very good with me last season (1912), and has, I think, been even better this.

King George V. (Hugh Dickson and Son, 1912).—A rather large flower, deep velvety plum colour, that is only at its best for a short period. Unlike most of these dark-coloured Roses, it opens freely, and I have seen some fine flowers of it; but, personally, the colour is not one that appeals to me. A good grower and strongly scented.

Lady Barham (Alex. Dickson and Sons, 1911).—A Rose after the exhibitor's heart. He knows when he puts it in his box that it, at any rate, will stand. Very large flowers of globular shape; colour, flesh, dull rather than bright, an enormous number of petals packed so tightly that many of them can never see the light. It has been good this year. A very fine flower took the silver medal for the best Hybrid Tea for Messrs. Prior at Southampton. Weight and substance are here in plenty. It is a robust rather than a vigorous grower, and produces one flower at the end of each shoot that grows very slowly. From its perfume one would judge there is a good deal of Tea blood, possibly Maman Cochet, in its veins. The wood is stiff enough to hold the flowers erect, and they do not require staking; but it would require protection in a wet season. Quite a reliable Rose for an exhibition, but useless for any other purpose.

Lady Greenall (Alex. Dickson and Sons, 1911).—One of the most beautiful Roses I know, but hardly large enough for the exhibition boxes, and I will refer to it under the garden Roses later.

La Galissiere (Schwartz, 1909).—A large, rather loosely-formed flower, a bicolor, bright silvery rose, reverse carmine. I have seen it exhibited lighter in shade than J. L. Mock, but it is a similar stamp of flower.

Leslie Holland (Hugh Dickson and Son, 1911).—A wonderful colour, very free-flowering, sweetly scented, but very little good for exhibition. Down here in Hampshire it opens too quickly to stand the strain of a journey in a box. In a cooler clime it would, no doubt, behave differently. Here I must call it only a garden Rose, but probably the very best of its colour, growth, habit and free-flowering being all prominently good. A cool season will probably suit it better, and it will then be exhibited for its colour, which is brilliant. It has been shown in wonderful form, with large flowers of great substance, by the raisers. Moreover, it has been awarded the gold medal of the National Rose Society.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

BORDERS OF HARDY FLOWERS IN A GLOUCESTERSHIRE GARDEN.

THE FLOWER GARDEN.

FLOWER BORDERS AT AMPNEY PARK, CIRENCESTER.

I SHALL be very pleased if you think this photograph of my borders is suitable for THE GARDEN. They have been full of colour this summer and much admired. The hedge at the back is a mass of red Dahlias of different shades. The tall plants are Michaelmas Daisies of different sorts, with large groups of Anemone japonica (white), Delphiniums (some of which are flowering for the second time), Spiræa Aruncus, Pæonies, &c. We fill up spaces with annuals, and this year have large patches of Pentstemon Southgate Gem, Coreopsis, Cosmea, Alonsoa, Browallia, Zinnia, Salvia Bluebeard, S. farinacea, &c.

Cirencester. A. CRIPPS.

THE CAMPANULAS OR BELLFLOWERS.

(*Continued from page* 551.)

C. latiloba.—See C. grandis.

C. Leutweini.—A foot high, and making a tuft of neat blue flowers in June. A Greek species, liking a rather dry soil.

C. Medium.—The well-known Canterbury Bell requires no mention further. With its calycanthema varieties it is one of our most valuable border biennials. Sow early to have good plants the following year.

C. michauxioides.—A handsome species, but practically biennial, and giving in July tall spikes of loosely-arranged, open, light blue flowers. Seeds sown in May or June.

C. nobilis.—This seems closely akin to C. punctata, and has red-violet or white flowers. It does not appear to be very perennial, and should be propagated by seeds or division. Twelve inches to 18 inches high. June and July.

C. patula.—A rather coarse native, about two feet high, with panicles of purplish blue flowers. Division or seeds. Partial shade. July.

C. persicifolia.—The most valuable of the taller Campanulas, C. persicifolia is now most varied in appearance and in colouring. It grows from 2 feet to 6 feet or more in height (we have seen Moerheimi about seven feet), is from white to deep blue, and the flowers, opening in June and July, vary greatly in form. Some are broad and flat, others are longer, while some are of the calycanthema or "cup-and-saucer" type, the calyx being of the same colour as the corollas. The double varieties are very handsome, and the old C. p. fl.-pl. has been superseded by newer varieties. Moerheimi is one of the finest double whites, humosa being a charming blue one, but there are many other good varieties. Division or seeds. Plant in good soil.

C. primulæfolia.—This was a biennial with the writer, and is not of much value. From 1 foot to 3 feet high, with a spike of purple flowers. Seeds. July.

C. pulcherrima.—Very like C. elegans.

C. pyramidalis.—A well-known pot or border plant, known as the Chimney Campanula. It

SOME GOOD
BORDER CARNATIONS:

1. Firefly.
2. Goldilocks.
3. Mrs. H. Brotherstone.
4. Daisy Walker.
5. Queen Eleanor.

Hudson & Kearns, Ltd., Printers, London, S.E.

is unnecessary to say anything regarding it, except that it is not often long-lived in the border, and is best treated as a biennial. Flowers in the open in July. Sow in May.

C. rapunculoides.—A rather coarse native species, with spikes of drooping blue flowers. Inclined to run at the roots, though not so much so as C. Rapunculus. Division or seeds. July.

C. Rapunculus.—This should be banned from every garden, so troublesome does it become. It grows from 1 foot to 4 feet high, and is blue. July.

C. sibirica.—From 12 inches to 18 inches high and with panicles of drooping violet flowers. C. sibirica suffers from being only a biennial. The form divergens is pleasing, while C. s. eximea is a choicer plant in every way, with violet flowers also. Seeds. C. Hohenackeri is practically a form of this, with violet flowers. June and July.

C. Trachelium or C. urticæfolia.—The Nettle-leaved Bellflower is a rather coarse but useful plant for the border. The flowers are blue or white, and are in good spikes. The double form, C. Trachelium fl.-pl., and its white variety alba were at one time much cultivated, but they are now less frequently seen. Comes freely from seeds and grows anywhere. Height from 1 foot to 4 feet. June and July.

C. Tymonsi.—A pretty hybrid about a foot high, with spikes of light blue flowers. Said to be of the same parentage as C. Hendersoni. Division or cuttings. June.

C. van Houttei.—A handsome hybrid for the border or rock garden, and with good purple flowers. Common soil. June and July.

C. versicolor.—There are three versicolors in the trade, one a poor biennial, 3 feet or so high, with small blue flowers; another, a pleasing pale blue subject about a foot high, but a shy bloomer; and a third about a foot high with blue and white flowers. July.

C. Vidali.—A lovely shrubby species with succulent, glossy foliage and charming pale blue flowers in July and August, but only of value in the warmest parts of England and Ireland. Seeds or cuttings. One foot to 2 feet high.

ANNUAL CAMPANULAS.

These call for little notice, and the prettiest are C. drabæfolia or attica, a charming dwarf hardy annual only a few inches high. C. Loreyi or ramosissima, 6 inches to 12 inches high, blue; and the handsome C. macrostyla, purple, with ornamental projecting styles, are good border plants. C. dichotoma, C. Loefflingii, C. phrygia and C. strigosa have all been in cultivation, though it is not easy to procure seeds of these. Sow in the same manner as other hardy or half-hardy annuals.

S. Arnott.

COLOURED PLATE.

PLATE 1480.

HARDY BORDER CARNATIONS.

After dealing so frequently with the Tree or Perpetual-flowering Carnations, it is a pleasant change to place before our readers some up-to-date varieties of these hardy border favourites, blooming as they do in great profusion from June until November, and bred to endure the most rigorous winter. The five varieties of which a coloured plate is given with this issue were raised and distributed by Mr. James Douglas of Great Bookham, who for a quarter of a century has been engaged in improving this type.

A DELIGHTFUL BELLFLOWER: CAMPANULA PERSICIFOLIA HUMOSA.

Firefly, a bright scarlet of perfect shape and ideal border habit, was exhibited at the Royal Horticultural Society's meeting in July last, and received a unanimous award of merit.

Mrs. Andrew Brotherstone.—No painting can do justice to the quaint beauty of this remarkable flower, its petal being perfect and the outline of the flower rivalling the Gardenia in shape, the colour a mole carmine, curiously and beautifully spotted with white markings. A powerfully Clove-scented variety that has proved the most popular of the year. Award of merit of the Royal Horticultural Society, July, 1912.

Queen Eleanor.—This fancy Mr. Douglas considers his best introduction to this class. A lovely apricot ground, edged and suffused with fiery scarlet, fading to blood red. One of the most frequently exhibited flowers of the past two years.

Goldilocks is a self of the true apricot shade and of perfect form, and, owing to its robust constitution, is a valuable addition to this popular colour.

Daisy Walker.—This is the white-ground fancy that gained the coveted distinction of a first-class certificate of the National Carnation Society last July, and won for its raiser the challenge trophy. It is, no doubt, the last word in this increasingly popular type, its ground a pure white, barred and pencilled a rosy scarlet, and by unanimous opinion judged to be the best-shaped white-ground variety extant. The stock of this is to be distributed in 1914, and is held by Mr. J. Douglas, Edenside, Great Bookham, to whom we are indebted for the flowers of all the five varieties from which our coloured plate was prepared.

THE GREENHOUSE.

EARLY TULIPS IN POTS.

Two or three "things to know," culled from my own experience, may happen to be useful to some who are growing these early varieties. (1) I find that I am more successful with them when I place the pots in a cold frame with a dark covering over the lights than if I "plunge" them in anything. I am able to so manage things that air can be, and is, given, except in very severe weather, all day and night. This is very necessary. (2) I believe that a considerable time may be gained if the newly-potted bulbs are placed in darkness under the staging or elsewhere in a warm greenhouse where the temperature can be kept about 50°. They come on very quickly in such positions, and as it also draws up the foliage, they can remain there a certain time after top growth has commenced. Unfortunately, during this period green fly is apt to be extra troublesome, and a constant watch has to be kept for its unwelcome appearance, when prompt steps must at once be taken to send the little pests about other business. (3) People frequently complain of some of their Tulips flowering low down close to the soil without any length of stem. This often arises from dryness at the roots at some period of their growth, for no plants are more susceptible to a want of adequate moisture than Tulips. It may be, however, their innate habit which requires correcting by a course of dark confinement in the earlier stages of growth. Some, such as Prince de Ligny

and Prince of Austria, do not want it; others, for example, Proserpine and Yellow Prince, do. (4) There is no doubt that size of bloom and size of pot are almost interchangeable terms. By the application of manurial aids extra size can be obtained when the plants are overcrowded, but it is at the expense of their habit. I like to see well-developed leaves just as much as fine flowers, and that is why I am always preaching against overcrowding. Long, delicate-looking, weakly leaves are unnatural, and any treatment that tends to produce such must be dealt with as one proverbially does with poison. For example, Van Gooyen, one of the cheapest of all the early varieties, is remarkable for its handsome foliage—broad, large and very silvery. The flower is like a medium-sized pale Cottage Maid, borne on long, sturdy stems. Overcrowding would entirely alter its character, and a lovely plant would be spoilt. JOSEPH JACOB.

THE AMATEUR'S GREENHOUSE IN AUTUMN.

By now all tender subjects that it is desired to keep throughout the winter should be under cover, as sharp frosts may set in at any time. With so many plants for which to provide accommodation, there is a great tendency to overcrowd the greenhouse, and if this is carried to the extreme, failure in many cases must be anticipated. Plants that have been outside for some time will often have a few destructive insects or slugs thereon, and for this reason every one should be carefully examined before they are taken indoors. Even then some may be overlooked, and such as aphides or green fly readily increase when subjected to warmer conditions. Should there be the least sign of these pests, a very good plan is to vaporise with one of the nicotine preparations that are now to be obtained, as vaporising is much safer and gives less trouble than when fumigating is resorted to.

Another point to bear prominently in mind is that the plants which have been out of doors, perhaps for months, have been fully exposed to the air, so that, when they are taken into the greenhouse, that structure should not be kept too close, otherwise many subjects may be injuriously affected. If this is not attended to, some even of the evergreen subjects will lose a good many of their leaves. It is, therefore, evident that a reasonable amount of air must be left at all times on the greenhouse, provided there is no actual frost, though direct draughts must, as far as possible, be avoided. Watering, too, is also another important consideration, for whereas in the height of summer it is best done in the evening, so that the plants may imbibe moisture during the night, it should now be carried out in the morning, in order that the superabundant moisture may be quickly dried up. At this season of the year, too, plants dry much less rapidly than in the summer, and consequently will not need so much attention in this respect. The various subjects that go wholly or partially to rest naturally require much less water at this season, but those of an evergreen nature must always be kept moist. To this section belong such subjects as Azaleas and Heaths, as well as the different plants in flower. Chrysanthemums whose blooms are expanded or rapidly approaching that stage are very liable to decay if there is a spell of damp weather and too much atmospheric moisture in the structure. In this case a good plan is, even if the weather is fairly warm, to use a little fire-heat, and this, combined with a liberal amount of air, will serve to dissipate the excess of moisture. At the same time, too dry an atmosphere must be avoided, as it is decidedly injurious to plants in general. Should frost penetrate into the greenhouse, do not on any account rush up the temperature by means of fire-heat, but cover up the structure so that the plants are in the dark, and allow them to thaw gradually. The different flowering subjects, such as Carnations, Zonal Pelargoniums and Primulas, need a light, buoyant atmosphere and a temperature of 50° to 60°. Where the greenhouse, however, is not regarded so much for the production of blossoms in winter as a structure for keeping tender plants safely through that season, the temperature may without risk descend to 45° at night, rising during the daytime.

Fuchsias lose their leaves during the winter, and when dormant they require very little water, only just sufficient to prevent them being parched up. They will also do with a moderate amount of light, on which account they are, in order to economise room, often wintered underneath the stage of the greenhouse. This has one marked drawback, inasmuch as they get the drip from the stage when the plants thereon are watered.

Pelargoniums of the Zonal and Ivy-leaved sections that have been bedded out during the summer should be lifted, shortened back, the long, straggling roots cut off, and be potted in comparatively small pots or laid thickly in shallow boxes. If they are given a good watering when first potted, no more will be required for some time, as these Pelargoniums need but little water during the winter months, for they are better if kept dry and in a partially dormant condition. This, of course, does not apply to those that are to flower in the winter, as for them increased heat and water are very necessary. In any case, Pelargoniums should have as light a position as possible, a remark that also applies to Heliotrope and Verbena. For those that are more or less dormant, such as Lantanas, Cannas, Agapanthus and Hippeastrums, light is not so essential. It is a great advantage to frequently shift the plants about, as by passing them through the hand any signs of decay or other troubles may be detected, and as far as possible remedied. Above all, never leave decaying foliage on the plants or lying about in the house. H. P.

THE NEW PRIMULA LA LORRAINE.

PRIMULA LA LORRAINE.

THIS new hybrid will be welcomed by those who cherish the uncommon and beautiful forms of the genus Primula. The newcomer is of Continental origin, and is said to have originated from the crossing of P. Veitchii and P. cortusoides amœna. The two parents resemble one another fairly closely, so that it is not surprising to learn that the cross has been effected. Incidentally, it might be mentioned that frequent attempts have been made to cross P. cortusoides with the well-known P. obconica, but so far without success; indeed, it is doubtful if any species has been crossed with P. obconica. The leaves of the hybrid under notice are soft and woolly, and the flowers are of the pure Rose du Barri colour. The plant seen in the accompanying illustration was shown by Mr. M. Prichard, Christchurch, before the Royal Horticultural Society in the spring of this year, when it received an award of merit. It is a variety of great promise, by virtue of its exceptional colour, neat habit and freedom of flowering. Only this one plant was shown, but, should its seed prove fertile, there is little doubt that this acquisition will soon be in the hands of many cultivators.

GARDENING FOR BEGINNERS.

HOW TO FORCE LILY OF THE VALLEY AND FLOWER ROOTS.

THE work of forcing flowering plants is very fascinating, and claims the attention of cultivators throughout the winter months. Heat and moisture and a somewhat confined atmosphere are essential to success. The heat must be artificial, secured from fires and hot-water pipes, or from hot-beds, or both. Moisture is easily obtained, and it must not be excessive, unless the heat is also high. The confined atmosphere is secured in a deep frame, pit or low house.

Lilies of the Valley.—These are forced by placing plump crowns in pots, or clumps containing a number of good crowns. The best are Berlin crowns or the strongest selected English-grown ones. Although few new roots are made during the forcing process, it is very detrimental to allow the crowns and roots to get dry at any time. While in a dormant condition the crowns will not be injured by exposure to frost, but they must not be lifted from the ground nor placed in a warm temperature while in a frozen state. Wait until all frost has disappeared naturally. A light, sandy compost is best for Lily of the Valley when potting up the crowns or clumps. No. 1, Fig. A, shows a strong crown, and No. 2 the same one with a portion of the roots cut off to enable the workman to place the roots properly in a flower-pot. No. 3 represents a useless crown. A few of these are generally found in the clumps, but they must not be removed, as they do no harm, and provide leaves for cutting purposes when the flower-spikes are placed in vases. No. 4 shows a good clump. Few roots are too long for potting conveniently when pots are used large enough to permit of the fingers being inserted between the clump and the sides. A nice sandy soil can easily be worked in among the roots. Single crowns must be potted as shown at No. 5. Twelve or more crowns may be placed in a 6½-inch pot. When the space, No. 6, has also been filled with crowns and some of the compost, strike the pot sharply on the bench, keeping the fingers on the crowns to steady them. This will have the effect of firming the soil around the roots, and any open space can then be filled at the top. No. 7 shows the stage of growth when the plants can be taken from the covering material, No. 8. No. 9 depicts the pots in a frame before being covered with moss or Cocoanut fibre. No. 10 shows a strong crown and flower-spike. At this stage full light must be admitted to them.

SELECTING AND POTTING UP LILY OF THE VALLEY CROWNS.

Fig. B represents flower roots, such as Spiræas, Dielytras and Solomon's Seal. Roots of moderate size may be potted whole; large ones should be divided. It is not necessary to put a great bulk of soil round these roots when they are potted. From three-quarters of an inch to an inch of compost will be sufficient. Thorough drainage and firmness of soil are necessary. Directly the roots are potted, give them a good watering. No. 1 shows a clump that is of suitable size to pot singly. No. 2 represents a large root that should be divided as denoted by the dark line across it. No. 3 shows half of a divided clump placed in a pot, and No. 4 the space to be filled with the prepared soil. No. 5 also gives a top view of the same root as placed in the pot, and No. 6 represents a whole, but smaller, root as potted. No. 7 shows a root of Dielytra spectabilis, and No. 8 one of Solomon's Seal. The large roots in each case must be carefully preserved in the pot. Until the time comes for placing the roots in a warm house, keep them in a cold frame as shown at No. 9. The latest batch of plants will commence to grow in such a frame. When the flower-spikes become prominent and new roots plentiful, put the pots in saucers as shown at No. 10.

Feeding and Watering.—Spiræas, Dielytras and Solomon's Seal may be both fed and watered through the medium of saucers. All the forced plants must be gradually subjected to a cooler or greenhouse temperature after being kept in a high one for a time; then the leaves and flowers last longer in a fresh condition. G. G.

DIVIDING THE ROOTS OF SPIRÆAS, DIELYTRAS AND SOLOMON'S SEAL BEFORE POTTING UP.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

The Herbaceous Border.—By this date practically all the late-flowering plants will have gone out of bloom or been cut down by the frost; hence the need to go over the border, cutting down what is necessary and making the whole quite tidy for the winter. Where no replanting or digging is to be done before the spring, a light pricking over of the surface will improve the appearance of the border.

Biennials.—It is not too late, providing the weather is open, to put various biennials and perennials in their flowering positions; in fact, some plants stand the winter better after being shifted than when left where they have originally been pricked out; so that Sweet Williams, Anchusas and Canterbury Bells may still be planted in the borders or beds. I find these subjects have made an unusual amount of growth this autumn, and may be the better for the check.

The Rock Garden.

Additions and Alterations.—The next month or so is, I think, the best time to make additions and alterations in the rock garden. By making the alterations at this season, the rocks and soil have time to settle into what will eventually prove their normal position before planting is done, probably in early March.

The Position of the rock garden has a very great deal to do with the ultimate success of the plants. It is useless to expect alpine plants to flourish in a position where even grass will not grow, and it is often in such a place that a heap of soil is put and stones dumped on to it, with a few Ferns put in, this being called a rock garden. To succeed in the cultivation of alpine plants generally, the position cannot be too open, the natural formation of the garden and the grouping of the stones providing the shade that is so necessary for the cultivation of certain subjects; and in an open position it is quite easy to have a bank facing each of the different points of the compass. Do not try to make a rock garden under trees, nor partially so.

Plants Under Glass.

Chrysanthemums.—By this date many of the early-blooming Japanese varieties will be over. These should be got rid of as soon as possible, and so make room for other subjects. Many of the stools may be thrown away at once, reserving only those that are required for stock purposes, thus saving a good deal of labour in shifting them about from place to place. A good light position is the best for stock plants, and a frame where frost can be excluded by turning on a little heat is very suitable. The latest batches of decorative varieties should be spaced out as much as possible, disbudding some of them to one bloom to each shoot, Mrs. J. Thomson, the Victoria family, J. W. Crossley, Winter Cheer and Heston White all giving better results when treated in this way.

Salvias and Eupatoriums for spring flowering must be given plenty of space between them just now, or the growth is likely to become attenuated. Careful feeding is necessary to maintain them in a healthy condition without unduly softening the growth. In each instance plenty of water is required, these being very free-rooting subjects.

Perpetual-Flowering Carnations.—The plants at this season must be kept very steady. Any endeavour to force them either with heat or manure is bound to end disastrously, at least so far as the ultimate success is concerned. A dry atmosphere is essential, as also is a moderately dry condition of the roots. In the event of much fire-heat being required to keep the temperature from 45° to 50°, spider may make its appearance, but a careful spraying now and again should keep it under.

Arum Lilies that may have been kept in the frames till now should be removed to a house, and if the flowers are required about Christmas-time, an intermediate temperature will suit them well. If late bloom only is required, they will do equally well in a cold resting fruit-house.

Plumbago rosea.—To get the best returns from this beautiful plant, it should be kept growing right through the winter, and must, therefore, be kept in the cool end of the stove; or if an empty Cucumber or Melon house is available, it can have exactly the treatment it requires. Naturally, as the plants come into flower, too much atmospheric moisture should not be maintained, though a damping between the pots should be given on all fine mornings. This is necessary to keep the plants growing, and so maintain a succession of bloom.

The Kitchen Garden.

Broccoli.—A sharp eye must be kept on these, so as to cover them up or lift them as soon as they are fit for use, or the first sharp frost will spoil them. A good way to treat a batch just coming in is to put the fork underneath them and give the plants a good heel over. In this way it takes a great deal more frost to injure them than when standing upright.

Globe Artichokes will be the better for a little protection from severe frost. Good, dry leaves placed around each clump, finishing off with some long, strawy manure, will keep them in good order; but care must be taken not to cover the clumps entirely, or rotting will take place.

Hardy Fruit.

Pears.—A few early varieties that do consistently well in this neighbourhood are Citron des Carmes (very small), Clapp's Favourite, Souvenir du Congrès, Beurré Giffard, Dr. Jules Guyot and Williams' Bon Chrétien. These are well worth planting, all of them giving fair crops practically every season, Clapp's Favourite and Dr. Jules Guyot being perhaps the most consistent. Doyenné Boussoch, though not first-rate in flavour, is a heavy cropper every year, and is well worth growing for early stewing. Pitmaston Duchess always gives a fair crop of good clean fruit, as also do Beurré Diel, Marguerite Marillat and Beurré de Mortillet. Marie Louise and Doyenné du Comice are not so consistent, but the fruits are usually clean and of good flavour. Thompson's, when established, crops very freely, and is one of the best Pears we have for flavour. Good late varieties are Charles Ernest, Marie Benoist, Nouvelle Fulvie and Le Lectier, the latter always giving a fair crop of clean fruit which keeps and ripens well.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Protecting Tritomas.—These showy autumn flowers can only be looked upon as hardy in very favoured localities, and I fear they often suffer more or less for lack of a little attention at this time. Some dry, open litter or coal-ashes should be placed round them, and the operation had better be performed by two persons, one to gather up the long leaves and hold them up, while the other manipulates the protecting material.

Old Violas.—While second year plants cannot be relied on to go through the summer, yet they yield large quantities of bloom throughout the spring months before young stock begins to make much of a show. It is well, therefore, to make use of some portion of the old plants for this purpose. When they must be moved from their present quarters, they can be lifted and replanted in ground which is to be used for half-hardy annuals next season. The varieties of V. cornuta, if cut down now, can be relied on to go on flowering throughout the whole of next summer.

Viola gracilis.—This little gem should be freely used. It can either be propagated by cuttings or by division.

The Rose Garden.

Planting.—This work must be prosecuted with vigour, in order to enable the plants to get somewhat rooted before severe weather sets in. Roses suffered sadly during November last year.

Replanting.—Notwithstanding every attention, Roses (on clay subsoils especially) often flower less freely after they have been planted for a few years. When such is the case, it is advisable to lift the entire bed or border, cut back the long, bare roots, and lay them in the ground temporarily in a convenient spot until the bed or border has been prepared for their reception again. If some fresh loam can be procured, it will be a valuable asset. Dress with some well-rotted farmyard manure, adding some bone-meal, wood-ashes and lime. Bastard-trench the ground, and, after it has been allowed to settle for a few days, replant the Roses, making any desired modifications as to the varieties and their arrangement. Give the whole a mulching of some light, open material.

The Pleasure Grounds.

Gravel Walks.—Old walks that have been frequently gravelled and have become rather unsightly can be improved without much expense by the following means: Begin at an end and slacken the surface with a pick to the depth of 3 inches or 4 inches; then pass the loose material through a sieve with a quarter of an inch or three-eighths of an inch mesh into a wheel-barrow, and wheel away the earthy siftings. Level the remaining material, which will soon be made clean and fresh by the winter rains.

Mulching Rhododendrons.—Large specimens will be much benefited by receiving a good mulching of half-rotted farmyard manure. Not only will they assimilate its fertilising properties, but it will assist in maintaining those cool conditions at the root during the ensuing summer which they so much enjoy.

Plants Under Glass.

Chrysanthemums.—The Autumn Queen now reigns supreme, the admired of all admirers, and cultivators are reaping their reward. Now is the time for note-taking, both at home and by the exhibition table. The big blooms are being slowly ousted by the decoratives and the singles. It is some consolation to know, however, that with such varieties as Felton's Favourite, David Ingamells, Mrs. A. T. Miller, Nelly Pockett, Soleil d'Octobre and Market Red one may secure a large number of good-sized blooms on a plant.

Sweet Violets.—These will now require careful handling, damp being the great enemy. To dispel it, the plants must be ventilated freely on all favourable occasions, while, on the other hand, they must be carefully protected from frost. Pinch all runners as soon as they appear.

Orchids.—Dendrobiums, Cœlogynes, Cattleyas and many other species of Orchids which naturally go to rest at this season should have the temperature considerably lowered, and they should enjoy rather dry conditions both at the root and in the atmosphere.

Fruits Under Glass.

Forming Vine Borders.—Where Vines are to be planted next spring, a start should be made with the border as soon as possible. For early work it is better to have the border inside only, but for general purposes it is advisable to have the border partly inside and partly outside.

Tomatoes.—Where winter Tomatoes are grown, a temperature of about 60°, with a rather dry atmosphere, should be maintained, and the flowers be artificially pollinated as they open.

The Hardy Fruit Garden.

Pruning Currants.—The work of pruning Currants should now be proceeded with. Red Currants should be pruned on the spurring system. Black Currants bear on the previous season's wood; therefore some portion of the old branches should be cut away annually to make room for young wood. The young shoots should only be slightly shortened.

The Vegetable Garden.

Potatoes.—Potato pits which were left open on top to allow evaporation to proceed should now be finished off, and some protecting material should either be placed on the pits or be at hand in the event of severe frost occurring.

Laying Savoys.—Much of this useful winter crop is often lost on account of the rains and melting snow percolating down among the leaves and lodging in the axils. This evil can be largely obviated by lifting the crop and laying it in by the heels, laying the plants well over on their sides so that they can throw off the water.

New Zealand Spinach can generally be kept in condition throughout November by covering a portion of the crop with a frame, or even by matting it on frosty nights.

CHARLES COMFORT
Broomfield Gardens, Davidson's Mains, Midlothian.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Cabbages.—No time should be lost in putting out the last batch of plants to come in for use in June. Such varieties as Flower of Spring, Daniels' Defiance, Wheeler's Imperial and Sutton's Imperial are all suitable. At this season slugs are especially troublesome during showery weather, and if not checked will quickly spoil the whole plantation. Lime and soot is of little use, as the first shower destroys its power. A much better remedy is to cover the ground within 6 inches of the plant, and close up to the stem, with finely-sifted coal-ashes. Over this slugs cannot crawl. All established plants should have the soil frequently stirred with a Dutch hoe, or, in the case of stiff soil, fork it lightly over in dry weather. Frequent stirring of the soil is also a check to slug depredations.

Onions.—Those who wish to produce large exhibition bulbs next year would do well to make a start in preparing the land on which they are to grow. In the growth of Onions of the Ailsa Craig type deep cultivation is an absolute necessity. An open site, away from overhanging trees, should be selected, and the land trenched quite 3 feet deep. If the soil is of a stiff, retentive character, with a hard pan-like subsoil, into which the roots cannot enter, but which withholds superfluous moisture from heavy rains which are not beneficial to the growth of the Onion, thoroughly break up the bottom trench and add a layer of manure to every spit of soil, using that which is long at the bottom; this assists in maintaining porosity of the soil. The shorter manure should come near the surface. If there is a possibility of the ground being trenched again next year, I would advise that the soil from the bottom of the trench be brought to the top; if not, arrange to have the surface soil in the same position when the trenching is completed. Leave the surface as rough as possible. The winter frosts will disintegrate the clods and render the soil in good working condition. Choose dry weather for the work, or the soil will knead too much.

Tripoli Onions.—The plants resulting from seed sown in August will now be 2 inches or 3 inches high. Keep them free from weeds by constantly hoeing during dry weather. First give a good dressing of soot or wood-ashes, which will, when hoeing, be gradually worked into the soil, and will in due course be beneficial to the plants in their subsequent growth.

Globe Artichokes.—Remove the lower leaves preparatory to placing around each a thick mulch of long, strawy manure as a winter protection from frost. In low-lying districts where the plants suffer from frost and fog, it is a good plan to take off and pot up sucker-like growths, wintering them in a frame with their pots plunged in ashes. Keep the lights open during fine weather to induce a stocky growth. Such plants will be useful in making a new plantation or for filling up gaps.

Endive should be transferred to frames as fast as they become empty to keep up a succession of blanched heads. Well ventilate the frames to prevent the rotting of the outside leaves. Blanching may still be done by tying up the largest plants of the Batavian kind out of doors. The Moss-curled should be blanched by the aid of an inverted flower-pot, covering the drainage hole at the same time so that all the light is excluded. Three or four weeks are required to blanch Endive properly. As the days become colder, the most satisfactory way is to lift a few plants every week and place them in the Mushroom house, shed or cellar.

Celery.—The final earthing should not be delayed after this date. As the work proceeds, carefully tie the leaves close to the stem to prevent the soil getting into the heart of the plant, which makes crooked sticks and cripples the growth generally. Well break up the soil, making it quite fine before placing it around the plants. If it is put together in rough lumps, that also, by undue pressure, creates a crooked growth. After the soil is chopped down from the sides of the trenches, and before it is put around the plants, soot should be liberally sprinkled on the soil as a check to slugs disfiguring the Celery. For earliest use, blanching with brown paper is the more simple way and quite as efficient. Where this is employed, and the weather at all dry, the plants should receive another, and last, soaking of water. Afterwards apply the last rings of paper, making them all secure.

Cucumbers for winter use must have close attention in their growth requirements. Abundance of heat is an absolute necessity, never allowing the thermometer to fall below 70°. The plants will not need syringing, but moisture must be maintained by damping the walls and beds occasionally. Remove any leaves showing the slightest tendency to red spider or mildew. Keep the growth thin on the trellis, stopping the shoots at the second joint, and by no means crop the plants heavily, or they will quickly collapse; if not quite that, the fruit will decay at the point, become crooked, or refuse to grow altogether. Never allow more than one fruit to remain from any cluster of flowers. Cover any roots with warm soil as fast as they appear on the hillocks, and always use tepid water when moistening the roots.

Swanmore Park, Hants. E. MOLYNEUX.

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

TULIPS FOR MAY (*Manners*).—The best Tulips for your purpose will be varieties of the Cottage or May-flowering sorts and those known as Darwins. The last named are the tallest and most handsome, though some of the shades of colour you require are not found in this group. Those most likely to suit you are Clara Butt and Inglescombe Pink, which really constitute the best pinks, with Inglescombe Yellow, Mrs. Moon and Leghorn Bonnet, yellow. Bouton d'Or is late flowering and very rich in colour. If you keep the bulbs of these in a cool, dry cellar or similar place until mid-December before planting them, a later flowering would be assured. Spanish Irises should follow the Tulips for early June. These should be planted at once. We think such Roses as Aglaia, American Pillar, Hiawatha and Tausendschön would be most suitable. The earliest-flowering Gladioli among large-flowered sorts are those known as July-flowering. They are a varied and delightful class.

DAFFODILS AND PÆONIES (*M. A.*).—Daffodils are chiefly increased by means of offsets, *i.e.*, side shoots which appear on the parent bulbs. These, when large enough, may be detached, and replanted either with the parent plant or in a place apart. Daffodils are also freely raised from seeds; but as the seedlings take from four to a dozen years before flowering, and a very considerable proportion of them may be inferior to the original, this phase of the subject will be hardly worth your while. You ask whether the herbaceous Pæony is long-lived, and the answer is that we believe it will, with cultivation, continue indefinitely. Indeed, we have to-day plants of a variety which grew in the home garden in established clumps fifty years ago, and the day of deteriorating is not yet. It should be remembered, however, that the plants have been cultivated meanwhile, and, this done, they may remain good for years. Good cultivation includes lifting, dividing and replanting every few years, say, six to ten, according to the circumstances. The Pæony is a deep-rooting, gross-feeding subject; hence deeply-trenched, well-manured soils should always be given it. The best planting season is September and October. Large clumps of the Pæony should never be transplanted intact, free division of the roots being as essential to the future success of the plants as the other things mentioned. In soils that are both light and shallow, six years would be ample to leave them without division; while in deep, rich loams they may remain for twice as long and still furnish good flowers.

TREES AND SHRUBS.

PRUNING BUDDLEIA VARIABILIS AND TAMARIX (*Mrs. F. Browne*).—The Buddleia should be cut back fairly hard, preferably early in the spring. The Tamarix may be cut back at the same time if it is desired to keep it within bounds; but, if a big bush is required, it would need no pruning at all, except to remove weak shoots that might be killed by the frost.

TREES AND SHRUBS FOR EAST COAST TO GROW IN SAND (*Dolphin*).—The following subjects may be expected to thrive under the conditions you describe: Pinus Laricio and its variety nigricans, the Corsican and Austrian Pines respectively, Scots Pine (Pinus sylvestris), Goat Willow (Salix Caprea), S. cinerea, S. repens, Hippophaë rhamnoides, Tamarix in variety, common Birch and Picea sitchensis. All the plants must be inserted while quite small, and the Pines will establish themselves most successfully if planted when from 6 inches to 12 inches in height. For shelter there is nothing better than Austrian Pine.

TO PRUNE POLYGONUM BALDSCHUANICUM (*A. D. H.*).—This plant may be cut back to within a few buds of the main branches, and have a number of the latter cut away if there are too many any time during winter or early spring, preferably during February or March. It is usual at the present time to go over plants and remove any growth which is likely to cause inconvenience during the winter, reserving the main pruning for the spring.

FRUIT GARDEN.

NEGLECTED FRUIT TREES (*Bono*).—The best way will be to go over the trees at once. In the first place, cut out all the dead branches and twigs (these, of course, can be of no good). Then start again and cut out the weakest of the branches where the tree appears overcrowded with them. That will be all you need to do now; but some time in January go over the trees again and thin out more of the weakest and most worn-out looking branches; that is to say, if you think the trees are still over-congested with branches. There is no other pruning necessary except this thinning out, and this should be seen to every winter. The middle of November transplant the Raspberry canes from where they are not wanted into rows where they are wanted. You will be disappointed if you leave the Rhubarb in the cellar for another year. Take it out and replant it in the garden, filling its place in due time with fresh roots from outside.

ABOUT APPLES (*H. G.*).—The Apples are badly attacked by the scab fungus. During the winter thoroughly prune out all the shoots (spurs and weak shoots are both liable to attack) showing cracks in the bark. Spray the trees while dormant with a wash of 1lb. of copper sulphate to 25 gallons of water. Just before the buds burst, and again after the petals fall, spray with Bordeaux mixture of half the strength used for spraying Potatoes. Almost any Apples except the most vigorous-growing varieties will succeed as cordons. They should, of course, be on Paradise stocks. Worcester Pearmain, Colonel Vaughan, Emperor Alexander, King of the Pippins, Cox's Orange Pippin, Allington, Golden Reinette, Baumann's Reinette, Fearn's Pippin and Sturmer Pippin for dessert purposes; and Duchess of Oldenburg, Potts' Seedling, Grenadier, Stirling Castle, Golden Spire, Lord Derby and Bismarck among kitchen varieties would probably prove satisfactory.

MISCELLANEOUS.

TO REMOVE CLOVER FROM TENNIS LAWN (*G. G.*).—Give the lawn a dressing of sulphate of ammonia in spring at the rate of 1½cwt. to the acre. Basic slag would greatly increase the tendency to grow Clover.

PLANT FOR NAME AND TREATMENT (*Miss R. S. L.*).—The specimen sent for determination is the Variegated Tree Mallow (Lavatera arborea variegata). It is a biennial, and is propagated by seeds, which may be procured from most of the best firms of seedsmen at about one shilling a packet. It is not usual for every plant to come true from seed, although a good percentage have variegated leaves.

NAMES OF PLANTS.—*A. K. B., Surrey.*—Clerodendron fœtidum (a Chinese shrub).——*Fife.*—1, Aster Novæ-Angliæ pulchellus; 2, A. N.-A. ruber; 3, A. lindleyanus; 4, A. Novi-Belgii Robert Parker; 5, Zebrina pendula; 6, Phœnix reclinata; 7, 8, 9 and 10, garden forms of Clematis Jackmanii; 11, Aster Novæ Angliæ variety.——*Exmo.*—The Dahlias are as follows: 1, Henry Patrick; 2, A. D. Stoop; 3, Rev. A. Hall; 4, Mrs. J. Goddard; 5, Mrs. Macmillan; 6, Crescent; 7, too poor to recognise.

NAMES OF FRUIT.—*T. C.*—1, Withington Fillbasket; 2, Kedleston Pippin; 3, Ecklinville Seedling; 4, Hawthornden; 5, Betty Geeson.——*Dinnet.*—Wyken Pippin.——*J. A. W.*—1, Tibbett's Pearmain; 2, Fearn's Pippin; 3, Pearson's Plate; 4, Margil; 5, Bess Pool; 6, Peasgood's Nonsuch.——*A. R. T.*—1, Keswick Codlin; 2, King of the Pippins; 3, Hollandbury; 4, Warner's King; 5, Potts' Seedling; 6, Lord Derby; 7, Pennington's Seedling; 8, Miller's Seedling; 9, Hoary Morning.——*J. E. P.*—1, New Hawthornden; 2, Frogmore Prolific; 3, Cox's Orange Pippin; 4, Cellini; 5, Royal Nonsuch; 6, Allen's Everlasting; 7, Beauty of Hants; 8, 9 and 10, King of the Pippins; 11, Stamford Pippin.

SOCIETIES.

THE KENT COMMERCIAL FRUIT SHOW.

The third annual exhibition of commercial fruit, organised by the Kent Commercial Fruit Show Association, was held in the Corn Exchange, Maidstone, on Tuesday and Wednesday, October 28 and 29. The number of entries were well in advance of those in previous years, and although the fruit was not so well coloured, in most instances it was of excellent quality. This show has rightly come to be regarded as a centre for the exhibition of the best examples of British-grown Apples and Pears, and, by bringing to the notice of consumers, growers and salesmen the merits of good grading and packing and the production of clean, sound fruit, those responsible for the display are doing good work. The exhibition and luncheon were attended by a great many people, among them being the Agent-General for Victoria, Australia, who stated that he had never seen such good fruit in the country that he represented.

We do not here propose to give details of prize-winners in the various classes, as these are of interest only to those connected with the trade, but it may be of value to give a brief review of a few of the more outstanding features. It was interesting to note that in the culinary Apples Bramley's Seedling and Newton Wonder were the most extensively shown. The classes for these were particularly well filled, and some extremely fine examples of these fruits were on view, both in boxes and barrels. The boxes used had to be of the following size, inside measurement: Federation standard, 20 inches long by 11 inches wide by 10 inches deep; Federation half-box, 20 inches long by 11 inches wide by 5 inches deep. Exhibitors were also advised to use boxes made to the following specification: Heads in one piece, three-quarters of an inch thick; sides in one or two pieces, three-eighths of an inch thick; tops and bottoms in two pieces, a quarter of an inch thick; and cleats for tops and bottoms about a quarter of an inch thick by 1 inch wide by 11 inches long. Good grading and packing had to be taken into consideration by the judges, and a class was specially set apart for the best packed boxes in the show. In the dessert Apples there were some very fine displays of Cox's Orange Pippin, Allington Pippin and Blenheim Orange, the latter, in many instances, being particularly well coloured, in spite of the fact that Apples, generally, are of a very dull hue this year. In the class for a new dessert Apple, introduced since 1900 and in season after December 1, Rival was about the only variety of import shown, the special cup offered in this class being awarded to Messrs. Gaskain and Whiting for a magnificent box of that variety. Evidently it is to be one of the leading dessert Apples of the future.

The barrels of culinary Apples, such as Bramley's Seedling, Newton Wonder and Lane's Prince Albert, were exceptionally good, those holding about three bushels being favoured. Here, in some instances, notably in Bramley's Seedling, fruits of two grades or sizes were shown, and the packing was plain evidence that some at least of our home growers have little to learn from those in the Colonies.

The Coupe Challenge Cup and the silver-gilt medal presented by the Worshipful Company of Fruiterers, offered for the best exhibit in Classes 1, 2, 3 and 4, respectively, devoted to Bramley's Seedling, Newton Wonder, Lane's Prince Albert and Blenheim Orange, grown in Kent, Surrey or Sussex, were won by Mr. S. Skelton, West Farleigh, Maidstone, for a wonderfully good display of Bramley's Seedling. The George Mence Smith Champion Cup, offered for the best box shown in Classes 1 to 15, was won by Messrs. Gaskain and Whiting, Faversham, with a superb box of Cox's Orange Pippin, this box being sold by auction for three guineas. The silver medal presented by the Worshipful Company of Fruiterers for the best box shown in Classes 13, 14 and 15 went to Messrs. P. and E. Le Feaver, Marden, Kent, for a splendid box of Lane's Prince Albert.

Two fine non-competitive groups of fruit were shown. One of these was from Messrs. George Bunyard and Co., whose head-quarters are at Maidstone, and who have a world-wide reputation for fruit trees. This comprised all the leading varieties of Apples in the pink of condition, and staged in the firm's best manner. The other came from Messrs. Seabrook and Sons of Chelmsford, and was also of particularly attractive appearance, fine, well-finished fruits, particularly the Cox's Orange Pippin, being arranged to the best advantage. Grading machines and spraying apparatus of many and up-to-date kinds were well shown by Messrs. Drake and Fletcher of Maidstone, and it is evident that the commercial grower is much better catered for in this direction than he was some years ago. The Digit Grading Machine was also shown at work by Messrs. W. Weeks and Sons, Limited, of Maidstone, who also showed large spraying machines.

Messrs. E. and A. White, Limited, Paddock Wood, Kent, had a fine display of their famous "Abol" insecticides, fungicides and washes, as well as spraying apparatus of many and particularly effective kinds. Their new non-poisonous worm-killer was also on view.

The Four Oaks Spraying Machine Company, Sutton Coldfield, had a very wide assortment of their spraying machines and apparatus, suitable for both large and small growers, and it would be difficult to name anything of the kind that they could not supply. Messrs. Voss and Co. of Millwall, London, made an attractive display of chemicals for spraying purposes, and also included samples of their well-known Fertilisers.

A deputation of the Royal Horticultural Society, consisting of Mr. James Hudson, V.M.H., Mr. W. Poupart, Mr. A. H. Pearson and Mr. C. G. A. Wix, visited the show on the first day and made the following awards to the exhibitors on behalf of the society: Gold medal to Messrs. Gaskain and Whiting for their collective display of Apples and Pears; silver-gilt Knightian medal to Messrs. George Bunyard and Co. and to Mr. Miskin; silver-gilt Banksian medals to Messrs. W. Seabrook and Sons, Mr. S. Skelton and Messrs. Spooner and Co., the latter being for maiden trees; silver Banksian medals to Messrs. W. Ray and Sons for maiden trees; Messrs. H. Cobb for three boxes of Allington Pippin; Mr. G. E. Champion, Mr. F. Smith and Messrs. Skinner and Sons. With such an important exhibition as this being held annually, we would suggest to the committee of management that invitations be extended another year to representatives of the horticultural Press.

READING GARDENERS' ASSOCIATION.

The usual fortnightly meeting was held in the Abbey Hall, by kind permission of Messrs. Sutton and Sons, on Monday, October 27, when, owing to the enforced absence of the president through indisposition, and of the chairman (Mr. Powell) in consequence of the serious illness of Mrs. Noble, Mr. J. T. Tubb (vice-chairman) presided over a good attendance of members. The lecturer for the evening was A. Harrison, Esq., of Watford (late of Oneglia, Italy), and his subject "Orchids." The lecturer first pointed out by the aid of lantern-slides the structural peculiarities of the flowers of Orchids and their resemblance to many insects, such as moths and butterflies. The extraordinary form of the fructifying organs, the means whereby insects were attracted and used for the purposes of pollination and intercrossing, were also shown by slides of Coryanthes, Stanhopeas, &c. Mr. Harrison then went on with plates and descriptions together, giving cultural details of the most useful species, such as might be grown successfully in warm, intermediate or cool greenhouses in the company of ordinary plants usually found in such structures, provided a few essential details were observed. He emphasised the importance of the use of rain-water only, as well as of careful ventilation, stating that while movement of air was absolutely necessary, nearly all the species objected to draughts. Most of the air admitted should come through ventilators below the stages, and not at the stage level. It was pointed out how excess of ventilation at the apex of a house dissipated the moisture and unduly dried the atmosphere, to the detriment of the plants. Among the species for warmer houses of which slides were shown, Mr. Harrison included Cattleyas Mendelii, Trianæ, labiata gaskelliana, gigas, hardyana and aurea; Lælia purpurata; Dendrobiums nobile, crassinode and wardianum; Cypripediums leeanum, Charlesworthii, bellatulum, fairieanum, callosum Sanderæ and Curtisii. Plates were also shown of some of the newer beautiful compound hybrids of Lælio-Cattleya, Odontioda, Brasso-Cattleya and Brasso-Lælia, and the lecturer stated that the great vigour of many of these hybrids made them more amenable to cultivation than a number of the species, but added that the prices of many were prohibitive. Among species needing cool treatment, plates of Odontoglossum crispum, in many varieties, were shown—O. Hallii, O. harryanum, as well as many hybrid Odontoglossums and Cypripedium insigne. Seedling Cypripediums were also shown growing on the compost of an established plant, and the various methods of raising Orchid seedlings were described. At the conclusion of his remarks Mr. Harrison answered numerous questions put to him by members of the audience, and at the close of the meeting was accorded a most hearty vote of thanks.

The hall presented an exceedingly bright and gay appearance, as, apart from specimens of Orchids brought by the lecturer, there were no fewer than eight exhibits. Mr. G. Tovey, The Gardens, Leighton Park School, staged eighteen dishes of fine Apples, which were awarded a certificate of cultural merit and were also judged for the Points Competition. For the latter three fine collections of Chrysanthemums were put up by Mr. J. T. Tubb, The Gardens, Bearwood; Mr. H. Reeves, The Gardens, Blandford Lodge; and Mr. H. G. Cox. Mr. E. Blackwell, head-gardener to the Lord Chief Justice, staged a collection of well-grown Apples; and Mr. H. Goodger, The Gardens, Stoneham House, three baskets of fine Sutton's Ailsa Craig Onions, which secured almost the maximum number of points. From the University College Gardens Mr. Drew sent beautiful cut Chrysanthemums, and Mr. W. Lees exhibited a group of seedling Fuchsias. Two new members were elected. The hon. secretary acknowledges with sincere thanks the receipt from "Onlooker" of two five-pound notes, to be devoted to special objects. The committee will consider and endeavour to carry out the donor's wishes.

BOURNEMOUTH HORTICULTURAL SOCIETY.

The Council of the Bournemouth Horticultural Society held a most successful exhibition of fruits, flowers and vegetables in the Westover Palace Skating Rink on Tuesday and Wednesday, October 28 and 29. The groups, cut flowers of Chrysanthemums on boards and in vases, the fruit and vegetables, and the non-competitive exhibits made the chief features of the exhibition. The children's section was also an extensive, beautiful and instructive one.

Groups of Miscellaneous Plants and Cut Flowers.

Mr. Usher, gardener to Sir Randolf Baker, Bart., was the winner in the big group class. His Crotons and Orchids were very effective. Messrs. G. Watts and Sons, Limited, Bournemouth, were close second prize winners, staging lovely Begonias, Crotons, Palms and Ferns. Mr. J. Stevenson, Wimborne, had a lovely group of plants and Chrysanthemums, and won third honours.

Mr. Charles Pearce, gardener to Mrs. Ormond, won the cup offered for a group of Japanese and single-flowered Chrysanthemums. His group was charmingly arranged.

Cut Blooms on Boards and in Vases.

For twenty-four Japanese in not fewer than eighteen varieties, Mr. J. H. Tooley, gardener to Mr. Hugh Andrews, Winchcombe, won, having fine examples of His Majesty, Queen Mary, Alice Lemon, Master James (highly coloured), Kara Dow, Frances Jolliffe and Lady Talbot. Mr. Usher was second, his blooms of Bob Pulling, Mrs. A. E. Roope, F. S. Vallis, W. Turner and D. B. Crane being very fine. Third honours went to Mr. B. Dacre, gardener to Mr. W. Dickinson, Taunton. Master James and Pockett's Crimson were his best blooms.

Mr. Usher had the best Japanese incurved blooms, H. E. Converse, W. Turner and Mrs. A. E. Roope being the best. Messrs. Dacre and Tooley were second and third respectively.

That fine cultivator Mr. H. Woolman of Shirley, Birmingham, won in the class for nine vases of blooms on long stems, distinct, three blooms in a vase. His blooms of C. H. Totty were very fine. He had also in good form Thomas Lunt, Miss Gladys Herbert, Lady Talbot, Lady Crisp and Kara Dow. Second honours went to Mr. J. Stevenson, Wimborne, who staged very nice blooms. Mr. Tooley was placed third.

In the class for two vases, nine blooms in each, two varieties, Mr. E. G. Cox, gardener to Mrs. Duberley, was placed first with F. S. Vallis and Mrs. Marsham. Mr. Kitcher, gardener to Major Wyodham Pain, was second with W. Turner and Mrs. Marsham, and had the best blooms. His blooms of W. Turner were the finest in the show.

For six vases, Mr. Galpin, gardener to Mrs. Telfer, was the winner. He had the best single vase of Japanese yellow, six blooms in a vase, Mr. Cox having the best six white Japanese.

Singles were well shown, Mr. Honey, gardener to Mr. J. G. Rayner, winning in the class for six vases. Mr. Barge, gardener to the Rev. C. H. Burrows, was successful in a similar class in another division.

Mr. Usher won in the class for winter-flowering Carnations, and Mr. Short won the cup in the class for Begonias and winter-flowering plants.

Messrs. G. H. Heath, Webb and Weaver staged the best Zonal Pelargoniums in the order named. These made a brilliant display near the centre of the hall.

Fruit and Vegetables.

The Grapes, Apples and Pears filled one long table, the quality throughout being very good. The Muscat of Alexandria Grapes were of the highest quality and grandly coloured. Mr. Hall of Embley Park, Romsey, Mr. Hill of Kingston Lacey, and Mr. Tooley of Winchcombe, also Mr. Barrett of Bournemouth, were the chief prize-winners.

Messrs. Cope of Wimborne, Hill, Dacre and Usher were the principal winners in the classes for Apples and Pears, and Mr. Usher had matters all his own way in the vegetable classes, winning the first prizes offered for collections by Messrs. Sutton and Sons, Messrs. Webb and Sons, and Messrs. Toogood and Sons.

Non-competitive Exhibits.

Gold Medals.—To Messrs. John Waterer and Sons for shrubs and climbers; Messrs. G. Watts and Sons for Chrysanthemums, hardy shrubs and floral designs; Messrs. Stuart Low for Orchids and Carnations; and Messrs. James Carter and Co. for vegetables.

Silver Medals.—To Mr. J. J. Kettle for Violets; Messrs. Toogood and Sons for vegetables; and Mr. Robert Chamberlain for floral designs.

WARGRAVE GARDENERS' ASSOCIATION.

A largely-attended meeting of the above society took place on Wednesday evening, October 22, when "ten-minute papers" were given by Mr. Baker on "The Propagation of Stove and Greenhouse Plants," Mr. Batchelor on "Tomato Culture," Mr. Irvin on "Large-flowering Cinerarias," and Mr. Gray on "Violet Culture." Each subject was treated in a very practical manner, full cultural directions being given, and a capital discussion ensued after each paper. Votes of thanks were carried with acclamation at the close. Three new members were elected. The Wargrave Plant Farm, Limited, staged a splendid lot of outdoor Chrysanthemums, and the judges awarded a cultural certificate. Mr. Pope showed a group of Begonia Gloire de Lorraine, Mr. Mackenzie a vase of Dahlias, and Mr. Stephens a vase of Carnations, and all three were highly commended.

ELSTREE AND BOREHAM WOOD HORTICULTURAL ASSOCIATION.

There was a large gathering of members of this society in the Parish Room on the evening of Thursday, the 16th ult., the occasion being that of a presentation to Mr. W. J. Pritchard, the hon. secretary of the society. The chair was occupied by the Rev. A. R. T. Eales, who said that it was one of those happy occasions when everybody was of one mind. They had met there to show their appreciation of the splendid work which their hon. secretary had rendered their society. Mr. F. Jones, who was secretary to the Testimonial Fund, said that 101 members had contributed to the fund, and spoke of his esteem of Mr. Pritchard. Mr. Harman Moore and Mr. T. Eames also spoke in glowing terms of the excellent work which Mr. Pritchard had done, and his keen interest in the affairs of the village. The presentation, which took the form of a magnificent roller-top desk, was formally presented by the Rev. A. R. T. Eales, who fully endorsed all that had been said of Mr. Pritchard. Also at the same time Mrs. Pritchard was presented with a handsome gold guard chain. In thanking the chairman and members, Mr. Pritchard, speaking with emotion, said that his work as hon. secretary had been very largely a labour of love, and he certainly did not look for any acknowledgment. The presentation was followed by a musical programme, kindly arranged by the chairman and some of the members, the evening being brought to a close by according musical honours to Mr. Pritchard.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in The Garden *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

A Brilliant Torch Lily.—The variety Nelsoni is one of the most interesting of dwarf-growing varieties of Kniphofias. It is not more than 2 feet high, very floriferous, and has elegant grassy foliage, against which the bright flame-coloured blossoms contrast admirably.

Useful Flower for Cutting.—Heliopsis scabra excelsa is a dwarf-growing form of this autumn-flowering subject, much in advance of the ordinary type. The blossoms are quite circular, thoroughly imbricated, and of a rich orange yellow colour. Early in June the flowers open, and they last quite fresh until the end of September—a remarkably long period. In a cut state flowers of this variety have been known to last six weeks in a fresh condition.

Rolling Lawns.—There is a tendency at this season to overlook the immense value of rolling lawns. This is really very essential; and now that the lawns are not being mown, the heavy roller should be used as often as possible, more especially while the weather is open. A loose-surfaced lawn is productive only of soft and easily-damaged grass, while a lawn that is kept quite solid by regular rolling produces finer grass, which will stand much more wear.

Potentilla Gibson's Scarlet.—For its colour alone this remarkable plant should be grown by all, the dazzling or brilliant scarlet of its flowers being probably unique. The plant, too, is a great bloomer, of ideal hardiness, not given to fastidiousness, and, being comparatively dwarf-growing, is useful in the small or the large border. At no time is the herbaceous flower border overdone with scarlet; hence so good a plant is doubly welcome. Increased by division or by seeds.

A Chinese Shrub with Black Fruits.—So many of our ornamental fruiting trees and shrubs have red, orange or yellow fruits that those with fruits of some other colour should receive consideration. Though of little or no value as a flowering shrub, Eleutherococcus (Acanthopanax) Henryii has very ornamental black fruits in autumn. Growing about five feet in height, the bushes are very attractive in autumn when laden with closely-packed heads of jet black fruits. There are also two other species with ornamental black fruits, natives of China, viz., E. leucorrhizus and E. sessiliflorum. A shrubbery border containing these and other fruiting shrubs has many admirers.

The Strawberry Tree (Arbutus Unedo).—This subject surpasses many other shrubs from an ornamental point of view. It flowers at a time when the majority of other shrubs have long passed. It is interesting as one of the very few plants that bloom at the same time as they bear the fruit of the previous year. At this time of the year it is laden with its terminal, racemose panicles of white flowers and its Strawberry-shaped scarlet fruits, both of which are very handsome. Its variety rubra, generally known as Arbutus Croomii, is an even more desirable plant, with much larger flowers of a beautiful rosy carmine colour and larger, dark green foliage.

A Beautiful Late-Flowering Monkshood.—A plant worthy of a place in the herbaceous border is Aconitum Autumn Glory, a beautiful late-flowering variety of the well-known A. chinensis. The flowers are not only later, but larger and of a lighter blue. A colony of this plant flowering at the present time is very interesting.

Protecting Dwarf Roses.—In gardens near the coast, dwarf Roses do not often suffer from the effects of frost, but in many localities it is an annual struggle to bring many varieties of Teas and Hybrid Teas safely through the winter; and as severe frost may now occur at any time, it is well to be prepared. The aim should be to break the current of cold air and still afford the plants a certain amount of air and light. For this double purpose Bracken or Wheat straw littered loosely in among the plants will be found very suitable.

Winter-Blooming Wallflowers.—Plants of the Early Paris Wallflower raised from seed sown last May are now giving their fragrant flowers. But it will be found advisable to cut the first spikes, as it encourages the plants to send out side growths, which will soon produce flowers and continue throughout the winter, providing the weather is not severe and the plants are given a warm, sheltered corner. These plants, if lifted carefully now and put in pots, will make valuable subjects for decorating the conservatory or cold greenhouse

Sea Holly with Tall Stems.—The Sea Hollies, or Eryngiums, are quite an interesting family of plants, many of them being of an ornamental character. One of the most conspicuous at the present time is Eryngium pandanifolium. It might well be called a hardy Pandanus, or Screw Pine, which it very much resembles with its handsome rosettes of glaucous leaves. At the present time it is bearing its tall panicles of flowers, which are arranged in globose heads of a purplish colour, and often attain a height of from 10 feet to 15 feet.

A Spiræa for the Rock Garden.—There are not many Spiræas—herbaceous or shrubby—that one would care to recommend for cultivation in the rock garden, though in the case of S. digitata nana—provided the true plant is obtained—it may be done with absolute confidence. In other words, this very charming plant, of not more than 9 inches high, is in the nature of an alpine, and because of its dwarfness and effective appearance is well suited to associate with alpine vegetation. The true plant is probably still quite scarce, and spurious forms have been distributed. No one, however, having once seen this pretty variety, endowed with dainty flowers of soft rosy pink, would ever forget its elegant beauty. The plant should be given a position of uniform coolness or moisture. Best increased by division in spring.

CORRESPONDENCE.

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

The Almond in Scotland.—Referring to the note by "Caledonia" on page 558 of November 8 issue, the common Almond is quite hardy in this district, and there have been trees in the locality for many years. I grow the double variety in this garden, where it has been for more than eight years. The dwarf Almond is also hardy, and I have cultivated both it and the variety besseriana for a long time.—S. ARNOTT, *Sunnymead, Dumfries.*

Treatment of Dracæna australis.—As an experiment, I planted out in the open garden a Dracæna last year. The soil here is a very heavy, cold clay, and I was rather afraid the Dracæna would suffer and probably rot off at the roots. The only protection it had was some straw at the base and some old sacking wrapped fairly tightly round the plant. On April 20 of this year I took off its "winter coat," and it has thrown some splendid new spikes. True, last winter was a mild one, with no prolonged spell of frost. Perhaps this accounts for its survival.—T. C. F. M., *West Horsham.*

NERINE BOWDENII FLOWERING IN THE OPEN AT GUNNERSBURY.

Nerine Bowdenii Flowering Out of Doors.—There appears to be a general impression that Nerines are tender subjects, only to be grown under glass, and the recent observations in the columns of THE GARDEN all tend to support this view. For instance, Mr. F. Herbert Chapman writes on page 534, October 25 issue: "it would be well if some of the amateurs who now devote the whole of their glasshouses in autumn to Chrysanthemums could be induced to take up Nerines," and he overlooks the fact that at least some of the Nerines may be grown entirely out of doors. Mr. Elwes, in his widely-appreciated article which appeared in your issue for September 13, says: "In the warmest parts of England Nerines may be grown fairly well in a cold frame all the year round, but in my experience better in pots than planted out, as I have never seen them in perfection so treated." One is led to wonder if Mr. Elwes has planted out of doors the comparatively new but very charming Nerine Bowdenii, which, by the way, he does not consider a desirable parent of hybrids owing to the irregular shape of the perianth segments. That this species will not only grow, but will flower profusely out of doors is clearly shown in the accompanying illustration. This was taken a few weeks ago in Gunnersbury House Gardens, Acton, where Nerine Bowdenii thrives in company with the Belladonna Lily under a sunny greenhouse wall and makes a most interesting feature.—C. Q.

Bracken as a Vegetable.—On reading in the *Times* of November 3 about the destruction of Bracken, I thought what a great pity it is (especially in these "vegetarian craze" days) that the value of young Bracken fronds when 3 inches to 6 inches high is not more generally known here as it is in India and Japan, for, instead of wasting and destroying the plants, it would be sent to market bundled as Asparagus is, and would furnish a welcome addition to our springtime vegetables. I append the method of cooking, which I have tried and proved to be successful. Take young, closely-curled Bracken fronds when about three inches to six inches high (or a little more), choosing the thickest and most green and tender ones. Stand the freshly-cut ends for about two hours in water in which a little ordinary kitchen soda has been dissolved. This draws out any slight occasional bitterness and generally improves the flavour. Rinse the stems in fresh water. Tie lightly in bundles, and proceed to cook and serve exactly like Asparagus, which it greatly resembles. —ANNE AMATEUR.

Primula Poissoni at Clandon Park.—On November 9 we were privileged to see Primula Poissoni flowering in great profusion in the Primula Dell at Clandon Park. This recent introduction from China is evidently a vigorous grower, but its great value is seen in the masses of lilac purple flowers that are produced over a long season. Mr. Blake, the able gardener of Clandon Park, who takes the greatest pride in the hardy Primulas grown there, writes: "I am sending you a few flower-spikes of Primula Poissoni. Now, these have been in flower continuously since April; in fact, the flower-spikes were cut down by the last frost we had late in April. The spikes were then about a foot high. Since that time they have continually thrown up spikes of bloom, and never has the bloom been finer than at the present time. Moreover, the colour is deeper than at any time during the summer. What to me is the most wonderful of all is that new flower-spikes continue to be thrown up in all stages. Of course, the first stiff frost will settle matters effectually; but, so far as my experience goes, there is no Primula that flowers as freely and continuously as does this one. I wonder if other readers of your widely-read paper have had the same experience. The plants are two years old from the date of sowing. It has never been out of bloom, but certainly has been improving. It takes a long time to ripen its seed, and yesterday was the first time I was able to gather any."

Lime-hating Campanulas.—Yes; the history of my relations with Campanula pulla is precisely as Mr. Murray Hornibrook has guessed (see page 546, November 1 issue). I followed blindly and faithfully the authority of Mr. Robinson, doing absolute reverence to his word in default of any correcting experience of my own. And the reward of my piety was long and sedulous failure, broken only by brief and partial gleams of success. I still did not dare to trace these tragedies to any source of error at the fountain head, nor did the various floras that include C. pulla give any enlightening indication. But in 1911 I went East into the Styrian limestones for Dianthus alpinus and Primula clusiana. The first bonus that that astounding mountain yielded me in the first five minutes was Campanula alpina; the second, Viola alpina; and the third was Campanula pulla, growing along the fallen limestone blocks in the black humus of a little gully. I came home enlightened; from that moment C. pulla throve with me in a mixture of peat with my ordinary loam. But the next year I again returned to Styria, and this time, higher up the mountain, I found C. pulla in wide mats in the limestone screes below the summit ridge, luxuriating here in a stiff and heavy yellow loam devoid of any element of peat. So now I take no further thought at all for C. pulla. It goes straight into my ordinary rock garden soil, in any cool ledge desired, and there it straightway increases and runs riot like a happy weed. With regard to C. excisa, I am not at all sure that this plant is not really a much more intractable lime-hater than C. alpestris (Allionii). It grows best in absolutely pure granitic sand among river boulders high up on the northern and the southern slopes of Monte Rosa. In cultivation, Mr. Bowles has made it an irrepressible weed in a bed of beautiful spongy, loose soil—two parts coarse sand and one part of riddled leaf-mould—with water flowing beneath. With me, however, this treatment has not yet answered, and my best patch gives me the lie at present by sprouting voluminously in a part of the bed devoted to lime, in chips and rubble, for the benefit of Saxifraga burseriana and C. Zoysii. With regard to Mr. Arnott's series of notes on Campanula, it is ungracious to look so charming a gift-horse in the mouth; but in the interests of those lovely plants themselves and their worshippers, I must really be allowed to ask for fuller descriptions if these are to be of general help, and also to suggest that too faithful and unconsidered a following of catalogue names, when the original authorities lie so ready to hand, is not the best way, perhaps, of rescuing us from that sea of confusion in which catalogues have plunged us. For some instances, in one page: C. stenocodon has no reference to C. pusilla, but is a variety or subspecies of C. rotundifolia; C. tridentata is specifically different from C. Saxifraga, and easily recognisable; C. valdensis is another subspecies of C. rotundifolia—this is the downy plant, with big purple bells. But Mr. Arnott's account of its second "form" looks very suspiciously like the genuine C. cæspitosa (Scop.), which Mr. Arnott has so cruelly wronged by obliterating it into the name of the wholly different C. pusilla (Haenke); and, finally, I shall be interested to learn how the true C. uniflora resembles C. excisa.—REGINALD FARRER.

COPRINUS COMATUS, A FUNGUS THAT SECRETES A FERMENT USED AS A CURE FOR SILVER-LEAF DISEASE.

Rose Chateau de Clos Vougeot.—This fine Hybrid Tea Rose was very good in the second week in October in a Dumfriesshire garden high up among the moors and hills, and, apart from its beauty, it has the possession of fragrance in a degree not often to be found among the newer Roses. It is one of the most fragrant of Roses, and one of the most delightful of the dark varieties of its class. It may be too deep in colour for the taste of many who prefer light-coloured Roses, but it is such a good Rose that it deserves consideration. It is well described as velvety scarlet, shading to fiery scarlet and changing to dark crimson. It is a capital bedding Rose, and flowers freely and long, and is such a favourite in the garden referred to, where good Roses are appreciated, that it is to be more largely grown. It was sent out in 1908.—S. ARNOTT.

War on Wasps.—Regarding the plague of wasps and the remedy, we have found it very successful to offer prizes at our local flower show for the greatest number of queen wasps and the greatest number of nests. If the prizes are fairly good, there are plenty of entries. In the case of the wasp nests, they were not exhibited at the show, but brought in as found to a member of the committee, who credited the bringer with the number and burnt the nests. Over fifty were taken round this house, with the result that, as far as we were concerned, we had no plague, although a mile away it was the worst year on record.—EDWARD M. HADOW, *Uffington Vicarage, Berks.*

—— In reference to Mr. Copeland's question, No. 3, under the above heading, page 534, the following note may be of interest to him: We had matted some Currant bushes to preserve the fruit. On uncovering one of them rather late in the year, I found a large number of queen wasps in the folds of the mat. It is a good many years since, and I cannot now say with certainty how many there were. Being in a semi-torpid state, they were easily disposed of. It is well known that queen wasps often take shelter during the winter in any warm, dry article that happens to be hanging undisturbed for a time, so it might be worth while to loosely fold pieces of garden matting or sacking and place them where they can be kept dry. If the experiment does not succeed as regards wasps, there will certainly be some earwigs.—THOMAS SMITH, *Westbury-on-Trym.*

A Wallflower for Bedding.—To those on the look-out for a first-class plant for bedding or massing, and one out of the ordinary, I can strongly recommend Cheiranthus Allionii. It commences to bloom in May, and, providing it is kept from seeding, will continue to give masses of its sweet-scented orange blooms the whole summer long. Although a perennial, I always treat it as a biennial, planting out strong seedlings each autumn 1 foot apart. It is a plant that requires a fair amount of manure, with an occasional dusting of a good artificial during the summer. Treated thus, the blooms will be twice the size of those one generally sees on plants growing on rockeries. For massing in front of borders it is fine, its beautiful orange colour blending well with all its neighbours, and its agreeably sweet scent invades the whole garden. We grow a variety called C. superbus, a much improved form sent out by Messrs. Barr.—F. WOODS, *Hatfield Park.*

The Best White Rose for Bedding.—I have just received my September 6 edition of THE GARDEN. I notice Mr. Molyneux asks for ideas as to which is the best white Rose for bedding. After considering the notes made by Mr. Molyneux, may I place my choice as follows: Elaine, The Bride, Mrs. Foley Hobbs and Molly Sharman Crawford? The first-named Rose does well with me, and I have a nice bed of it. The plants are very floriferous; the blooms come a lovely shape. They are not such a pure white as the other three mentioned, being very slightly tinted cream, but the plants make a fine bed. The Bride is grown out here very extensively on its own roots, and a bed of it in February—our best flowering month—is a sight. Kept low it is splendid, but it is inclined to make rather a big bush with us. The last two mentioned I have only had for two seasons, but I should say they would be very good white bedding Roses in the United Kingdom. They make nice beds with me, and I have had some fine blooms from both. White Maman Cochet we all know, but the drooping habit of the flower debars it from being a good Rose. My Roses are grown in a temperature varying from 60° to 88° Fahr. and within 20 yards of the sea. As to the last statement I am well aware, for on September 18 a typhoon swept away over two hundred of my favourites.—R. A. NICHOLSON, *Hong Kong.*

FORTHCOMING EVENTS.

November 18.—Royal Horticultural Society's Exhibition. Chrysanthemum Show at Wokingham.

November 19.—Jubilee Show at Bristol (two days). Shows at Newcastle (two days), Woolton, and Hull (two days).

November 20.—Norfolk and Norwich Chrysanthemum Show (three days). Shows at Barnsley (two days) and Paisley.

November 21.—Shows at Dundee, Blackburn, Bolton, Dunfermline, Stockport (all two days) and Kilmarnock.

THE SILVER-LEAF DISEASE OF FRUIT TREES.

ITS CAUSE AND PREVENTION.

THIS disease, well known to attack and even to destroy the Plum, especially in the case of certain varieties like the Victoria and Czar, is easily recognised by a silvering of the upper surface of the leaf, from which it takes its name. It is a condition which may be due to different causes, but which, in probably 99 per cent. of cases that occur among fruit trees, is due to a common fungus, known as Stereum purpureum. The spores of this fungus are able to grow wherever they find a wound; they soon germinate, and give rise to a mycelium or spawn, strictly the same as the spawn of Mushroom, which travels through the wood and in a short time affects the leaves. It does not follow that the spawn itself has reached the leaves, for the effect, in the case of a Victoria Plum, has been produced at a considerable distance beyond the region attained by the spawn or mycelium. In the case of one experiment, out of fifteen inoculations made in February, twelve resulted in silvering by the middle of May. An inoculation of a Victoria Plum in August, 1912, resulted in silvering five weeks later. This common cause of silvering—indeed, quite the commonest—was made known by Percival in 1902. (See Journal of the Linnean Society, Vol, XXXV., page 390.) Since then other experiments have been made, particularly by Mr. F. T. Brooks, M.A., of the School of Botany at Cambridge, and it is one of his remarkable demonstrations in the Cambridge Botanic Garden that leads to this note. In a group of young trees the silvered branches are easily picked out from among others that bear only green, healthy leaves, and, by following the shoot down, there is invariably found the label which records inoculation.

STEREUM PURPUREUM ON STEM OF APPLE. THIS IS THE FUNGUS THAT CAUSES SILVER-LEAF DISEASE.

Silver-leaf a Comparatively Recent Disease.—It is remarkable that until recent years little notice appears to have been taken of this disease. I find no remark about it in works I have on fruit cultivation; indeed, in Thompson's "Assistant" it is said that the Plum is liable only to gumming. The true cause at first does not seem to have been accepted. It was pointed out in 1902. In 1906 Dr. Cook, in "Fungoid Pests of Cultivated Plants," page 135, says: "We must still regard ourselves as sceptical as to whether Stereum is the cause of silver-leaf"; and Mr. Massee, in the same year, says: "I know absolutely nothing about silver-leaf." In 1908, in Messrs. Bunyard's Nursery, I believe by Mr. Bunyard, jun., I was informed that silver-leaf was due to injury. This was near the mark, but mechanical injury by itself is unlikely to produce such a result, and only an agent like Stereum was required to complete an explanation.

Other Causes of Silver-leaf.—It may be said now that this cause has been proved for Plums, and that no other is known, though cases have occurred which do require another explanation. Mr. Brooks mentions the silvering of seedling Plums which could not be attributed to the action of Stereum, and it is unlikely to cause silvering in the case of the White Dead Nettle. It has been known, too, in the case of Apple shoots which have been cut from healthy trees and kept in the air for a short time. While not the cause in these instances, it may reasonably be regarded as the cause in the case of certain trees and shrubs that are not allied to the Plum, as, for instance, Red Currant and Laburnum, upon which the sporophores or fructifications of Stereum were found. Laburnum, indeed, has been silvered by infection from the Plum, and a Whinham's Industry Gooseberry bush, inoculated during 1911, became silvered during 1912. Stereum may thus affect a variety of trees—Portugal Laurel I remember to have suffered in this garden—and it is important to mention that although Mr. Brooks has seen few adult Apple trees showing silver-leaf, he has frequently found scions of regrafted trees that are silvered. He describes a group of Blenheim Orange Apple trees that were regrafted with scions of either the Grenadier or Jubilee variety three years ago. The grafts grew until the spring of 1912, when those on twelve of the trees rapidly died. When the trees were examined in August, 1912, each stock showed innumerable sporophores or fructifications of Stereum purpureum growing from the bark. It should be remembered that while silver-leaf in a fruit tree may be held almost with absolute certainty to indicate the presence of Stereum, it does not follow that that Stereum necessarily produces silver-leaf. Mr. Brooks believes that the manifestation depends partly upon leaf structure, and in cases mentioned silver-leaf did not result, though Stereum had made considerable progress in the tissues. Apple and Beech trees that were probably killed by Stereum did not show the phenomenon.

R. IRWIN LYNCH.

Botanic Garden, Cambridge.

(To be continued.)

ROCK AND WATER GARDEN.

THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

If there is one subject that has, more than others, received too much attention from a journalistic point of view, one would think it is that of the rock garden and its kindred associations. Volume on volume, article on article, have been poured forth in season and out of season, all professing to deal with one phase or another. Where there is such an unlimited supply of literature on one subject, it is possible, even probable, that some of it gets read. I do not propose to apologise for adding to the pile, because, although one may choose to write, it is by no means a guarantee that there are those who will choose to read. Those who do *not* will need no apology. Those who *do* have it in their power to curtail the perusal of these articles at the exact point at which they cease to interest them. May I say definitely here what I believe to be the real and most important faculty that is necessary for the successful arrangement of not only rock and water gardens, but every other form of landscape treatment. It is a sense of, and power of, composition—the power to judge of the sympathetic and harmonious relation of one feature to another, whether it be masses of rock, grouping of shrubs and trees, combination of colour, or the association of other suitable vegetation. However, despite the fact that this sense is lacking in many of us, there are, I believe, some simple rules that, carefully followed, render it quite possible for most of us to construct a successful rock garden, that may possess many faults, it is true, but that will not only provide many happy hours, but also (but not by any means the least of the uses of a rock garden, but one that is, unfortunately, often overlooked) a happy home for the innumerable species and varieties of alpine plants now in cultivation. It is my intention to take the reader through the elementary processes of preparing such a garden in the sequence in which they would arise in the progress of the work, viz., (1) Selection of site and design; (2) Selection of stone; (3) Arrangement of stone; and (4) Soils and planting.

THE BEGINNING OF A ROCK GARDEN.

This stone, weighing 779 tons, and containing 9,720 cubic feet, was the result of blasting out stone for rock gardens at the Stancliffe Quarries, near Darley Dale, Derbyshire.

Choice of Site.—Mr. William Robinson has given it as an axiom that the rock garden should be "as far removed as possible from the house," and I remember he took particular care to impress this on me during a brief conversation I had with him at the International Show at Chelsea last year. Now let me say at once that there is no man living (perhaps few dead) to whom, in my opinion, the horticultural world owes greater respect, admiration and gratitude than to Mr. Robinson, and none shares more ardently in the general tribute paid to his work than I do; but I think this particular assertion of his is calculated to be a little misleading. The rock garden should be in the most suitable position, even though the drawing-room window looks straight upon it, and the most suitable position is determined not by the proximity to the house, but by the application of a harmonious design to an applicable site. True, it frequently happens that the most suitable site occurs at a point that is a considerable distance from the house, because, generally speaking, the further one gets from the domicile the nearer one gets to natural conditions, and, consequently, the more at home seems the rock garden; but it is not imperative that natural conditions should in every case be driven to the furthest extremity of the grounds, whether it be of mansion, villa or cottage. I have recently come across charming dells and sloping banks in quite close proximity to the residence of the owner that were ideal situations for the introduction of rock outcrop among masses of low-growing shrubs and other plants. It is quite impossible to enumerate all the sites that are suitable, so it will be better to look at some of them in combination with the question of design. There is (and reference to the best-known authorities will verify this) a particular style of formation that is so eminently suitable for any given site that in nine cases out of ten the environment itself determines the ultimate design, and the only satisfactory method of illustrating this will be to take actual conditions with which I have personally come in contact, and by description and a few simple sketches place before readers the best method of achieving the most successful results under those conditions.

Colchester. GEORGE DILLISTONE.

(To be continued.)

LITHOSPERMUM PROSTRATUM FLOWERING LATE.

THIS lovely rock plant is still blooming away, unharmed in its flowers by frosts, which have cut down the Dahlias and have injured some of the Chrysanthemums. Other rock plants in bloom are few and far between, but L. prostratum is quite happy, and is giving quite a number of its fine blue flowers. It is so frequently mentioned that one need do little more than call attention to its late flowering.

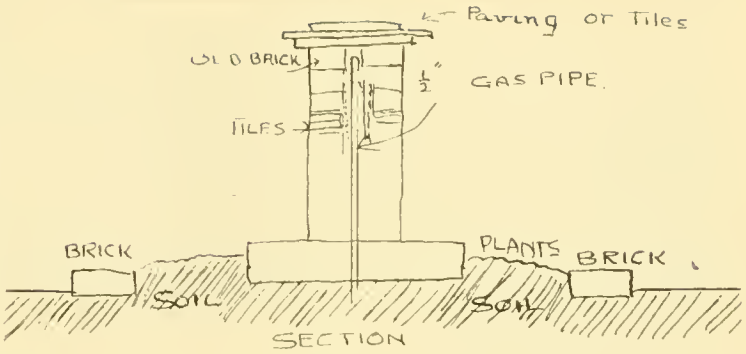
Dumfries. S. ARNOTT.

A QUAINT AND INEXPENSIVE SUNDIAL.

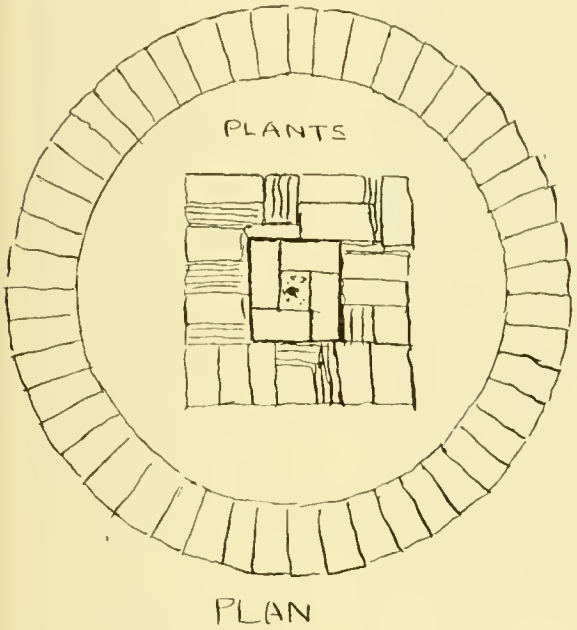
THERE was a time when the sundial was introduced into the garden for the purpose of measuring the time. To-day it has become merely a garden ornament, a centre from which diverging paths radiate, or the central axis of a formal design. It introduces into the garden a more or less romantic note of association with the past, and appeals to the same sense of appreciation as old buildings, old furniture, and everything else that has come to us from bygone days. The sight of one calls up memories of the sweet old-world flowers of Chaucer and Shakespeare: the Sweet Brier, Pinks, Gilliflowers, Lavender, Rosemary, Columbine, and "Roses damask and red" of Bacon.

The design for a sundial pedestal in the accompanying illustration is not meant for the garden of noble proportions or for the embellishment of palatial surroundings, but is simply a quaint and pretty idea that can be introduced into the tiniest cottage garden at little expense and with certain success. It is meant for those who love their gardens so much that they like to do things themselves, and as such is purely a "gardener's" sundial rather than a pretentious work of masonry ("sculpture" is, I believe, the word generally used). Just a few old bricks and thin roofing tiles, a short piece of iron pipe, two or three pieces of paving, and a little cement darkened by the addition of a little lampblack are all that is necessary; the joints should be quite dark. Round the centre plant a mixture of old-world plants, such as a pink Monthly Rose, two or three plants of Lavender, some Catmint, Thyme, and any old-fashioned odds and ends there is room for. If the sundial forms the terminal of a path between two borders, brick, on edge, paths are comfortable and dry, and when the joints are green with moss, grass, a dwarf Sedum, or creeping Thyme, are very attractive. The same idea can be successfully adopted to create pedestals for small lead figures, and can easily be worked into circular, hexagonal or octagonal shapes. Old bricks and tiles are recommended, not because they are cheapest, but because the discoloration of age on them gives the best results. A sundial plate can be obtained for a few shillings, and even though it was made in Birmingham last week and will probably bear a date about 1647, no one will mind the date being false; in fact, if a genuine *old* dial were obtained, who would believe in its antiquity?

G. D.



SECTIONAL DIAGRAM OF SUNDIAL PEDESTAL.



PLAN OF SUNDIAL PEDESTAL AND BED FOR OLD-WORLD FLOWERS.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

NOTES ON NEWER ROSES.

(*Continued from page* 562.)

HYBRID TEAS FOR EXHIBITION.

Lieutenant Chaure (Pernet-Ducher, 1910).—Another possible—hardly a probable—Rose to figure often in the exhibition box, and then only as a front-row flower. It did find its way into one or two boxes at the "National," but it was in the seventy-two and forty-eight classes, and it will very seldom be large enough to get into the twelves. It is a good colour, rather brighter than either of its parents, reported to be Etoile de France and Liberty. A believer in the hereditary tendency is not likely, therefore, to expect much from Lieutenant Chaure, but it was one of the twenty new Hybrid Teas selected by Mr. Mawley to be placed in order of merit. I believe I placed it at the bottom, or very near it, so that it is evident I do not think very highly of it for this purpose. It is a good garden Rose, however.

Mabel Drew (Alex. Dickson and Sons, 1911).—This Rose was also included in that list, but figured at the other end; in fact, I placed Mabel Drew second, George Dickson only beating it, and I shall be very much surprised if that is not the general opinion. It is a gold medal Rose, won at Salisbury in 1910, and has won for itself already a reputation that certainly entitles one to call it one of the best of the new Roses and one of the best productions of its raisers. It is not easy to find a fault with it. A good grower, flowers of excellent shape and refined character, deep cream in colour and fragrant. Hardly subject to mildew. Very strongly recommended to the exhibitor.

Margaret (William Paul and Son, 1909).—Little, but good. A pretty Rose that comes easily, frequently and well. Not quite large enough, perhaps, to be a very useful Rose to the exhibitor. A Killarney-like Rose with rather more petals, not quite so vigorous a grower, and not so subject to mildew. It has been flowering all the season with me, and its plants are still carrying blooms, November though it is.

Marquise de Ganay (P. Guillot, 1910).—A large flower, silvery rose in colour, that has been frequently exhibited. It is a good grower, very free, and should be made a note of as one of the most promising of the Continental-raised Roses.

May Kenyon Slaney (Alex. Dickson and Sons, 1910).—To those who like variety in shape in their blooms, so that the whole box is not of the pointed persuasion, this Rose can be recommended. I had a fine large flower of it in a box of twelve at Southampton in June last. It is globular rather than pointed, pale blush pink on a cream ground that deepens with age, and in the autumn is very much deeper in colour. A good grower, not subject to mildew, and very free-flowering. Fragrant.

Mrs. Amy Hammond (S. McGredy and Son, 1911).—One of the very best all-round Roses of recent introduction. Grown for exhibition, it produces a magnificent flower; grown for garden decoration, it has all the points necessary for that purpose. Large flowers, borne on long footstalks,

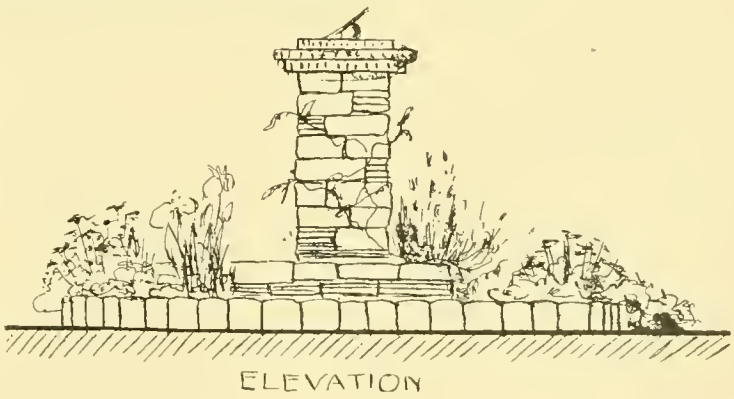


DIAGRAM SHOWING ELEVATION OF SUNDIAL PEDESTAL.
(*Scale of each illustration: Half an inch = one foot.*)

very freely produced, in flower here from May to November. I do not know what place it will take in Mr. Mawley's Analysis, but I place it easily in the first half-dozen of the newer Roses. Those who have not got it should get it. A larger and fuller Pharisäer with a peach (the rosarian's tint) flush that is not easy to describe. One cannot speak too highly of it. Vigorous, branching habit, very free-flowering and sweetly scented, it stands all weathers, and is as beautiful now in November as were its flowers in June. Messrs. McGredy have given us many beautiful Roses, and this is entitled to be called one of the best. It should be in every garden; certainly in every Rose garden.

Mrs. Arthur E. Coxhead (S. McGredy and Sons, 1910).—No Rose of recent introduction has found its way into so many gardens as this one, and the reason is not far to seek. I have never yet seen a split flower of Mrs. A. E. Coxhead. It always comes good. Notwithstanding the severe handicap of its bad colour, I expect to find it very high up in Mr. Mawley's list. I placed it third in order of merit. Those who say the new Roses have no scent should try Mrs. A. E. Coxhead, and then hang their heads with shame. It is particularly good in the autumn, too, and is a reliable Rose all through the season. If only the colour had been a little more pleasing! The raisers call it claret red, but there is no claret and very little red. I should call it a deep magenta puce, and the only time it has any pretence to good colour is under electric light. It bears the name of the wife of one of the keenest amateur rosarians that it has been my good fortune to meet, who, unfortunately, has to grow his Roses within the five-mile radius of Charing Cross, but whose garden is a triumph over difficulties too numerous to mention.

Mrs. Andrew Carnegie (Cocker, 1913).—I have not grown this Rose, so can say nothing as to its behaviour; but I have had a great number of enquiries, to all of which I have given the same answer. I do not think an outdoor-grown flower has been staged in the South.

Mrs. Arthur Munt (Alex. Dickson and Sons, 1909).—An ivory tinted white flower of excellent shape, but not often large enough to stage. It is reliable, free-flowering, a fine autumnal variety, mildew-proof and scented, of Tea-like appearance and growth.

Mrs. Charles Custis Harrison (Alex. Dickson and Sons, 1910).—I mention this for its colour alone, a very warm, deep, almost crimson pink that lights up the spot it grows on in a wonderful fashion, and is very telling in the box if you can get it big enough. It is free-flowering, fragrant and a good grower, and a note should be made of it by those who like strong colours.

Mrs. Charles E. Allen (Hugh Dickson and Sons, 1911).—A very beautiful Rose, but not, I am afraid, large enough.

Mrs. Charles E. Pearson (S. McGredy and Sons, 1913).—To this I must say the same. I will refer to both of these varieties under the decorative Roses.

Mrs. Cornwallis-West (Alex. Dickson and Sons, 1911).—This is quite another matter. Here we have a magnificent exhibition variety. Easy to grow, easy to show and a very beautiful Rose, although it is not of the orthodox pointed shape with guard petals, but is globular, almost round. The petals are of great substance. The colour is delicate ivory white, with a maiden's blush in the centre of the flower. Wants to be cut young before it shows the centre. It is a good grower, with free and branching habit, lovely foliage, not subject to mildew, very often with seven leaves instead of five. It has been well exhibited all through the season, and all exhibitors should get it if they have not tried it. It received the gold medal at Salisbury in 1910. Ought not this Rose to be named Lady Randolph Churchill?

Southampton. HERBERT E. MOLYNEUX.

(To be continued.)

FOLIAGE PLANTS PROPERLY ARRANGED BY AN ARTIFICIAL POOL IN A SURREY GARDEN.

THE FLOWER GARDEN.

FOLIAGE PLANTS FOR THE WATER-SIDE.

THE accompanying illustration should, I think, serve to impress upon readers the beauty of certain well-known plants from the point of view of foliage. The Water Lily is Nymphæa Marliacea alba. Although no flowers happen to appear in the illustration, this Water Lily is, in my opinion, quite one of the best for all-round effect. It gives each year during a lengthy period a great number of large and perfect blossoms, hard to excel for lustre and purity. It is often urged that this Water Lily is too large for small ponds. The remedy is simple. If the outer leaves are cut off, the crowded inner leaves will quickly fall flat to take their place. In the foreground of the illustration on the left is the common wild yellow Flag, Iris Pseudacorus. It will be noticed what a magnificent foliage plant this Iris makes when grown actually in the water. In the background are Iris sibirica and its variety Snow Queen. The Primula growing upon the edge of the water is P. japonica, and is of a flaming vermilion colour. The tree in the background is Prunus Pissardii, which I consider a faultless subject from every point of view—growth, foliage and flower. It would scarcely be believed at first sight that the pond is an artificial one, but such is the fact. Surely this method of construction is more beautiful than the unnatural arrangement which one commonly sees in gardens.

RAYMOND E. NEGUS.

Walton-on-Thames.

THE NAMING OF TULIPS.

IT has required Mr. Jacob's "prod," as well as that of the Editor, to cause me to put pen to paper *re* the naming of Tulips, not because it was of no interest to me—it is of very great interest, as it must be to every large grower of Tulips. I do not think Mr. Jacob has any idea of the extent to which Tulips break in our soil, and the cause of the breaking is quite unknown to us. One large grower told me that he attributes it to poor cultivation; but we are quite sure that that is not the cause in our case. We have put eighty tons of raw cow-manure to the acre on Tulip land, and that cannot by any means be called poor culture; but the fact remains that nearly every variety of Cottage and Darwin Tulip that we cultivate has broken more or less. Sometimes the breaks do not amount to more than one or two bulbs per thousand, and in some seasons not that; but the season of 1912 gave us breaks in some varieties amounting to 30 per cent., and that is a serious matter to a market-grower, as the flowers of the broken forms have little market

value as cut flowers, however much they may be admired in the private garden. Many breaks are too ugly to be of any value at all, and are only fit to be thrown on the dust-heap, and that means a depletion of stock without any return. Many breaks are, however, in my estimation very beautiful, and bound to meet with favour as they become known. The process of propagation is slow, and it takes several years to make sufficient stock for sale.

Mr. Jacob speaks of the "break" as "the taking-on their final striped appearance"; but the stripe is not "the final take-on," as the stripes occasionally revert to selfs again, and it requires several years' selection to gain fixity. Again, the same variety frequently breaks into two distinct forms, and that seems to preclude Mr. Jacob's suggestion that a break should carry the name of the variety from which it comes. Clara Butt, for instance, gives two quite distinct breaks, and over twenty other Darwins have given two. Mr. Jacob surely would not like to see in a catalogue "Clara Butt Broken No. 1," "Clara Butt Broken No. 2"! It is the amateur, however, who has to be considered first in the matter of nomenclature, and to the uninitiated I think that to name all the breaks after the parent would lead to endless trouble and confusion; the fact of one name being connected with two varieties would mislead very many. If the name only applied to one or two sorts, it would not matter much; but the repetition of so many names would lead to confusion.

I agree with Mr. Jacob that growers should come to an agreement as to the naming of breaks, and if the trials at Wisley lead to uniformity of nomenclature, we shall be glad to have them. I think, however, it will be found that Krelage's breaks are totally distinct from those that have occurred in England. We have grown nearly all the Rembrandts that Krelage catalogues, but have not found one of them identical with our own breaks. It is unfortunate that the announcement of the trials at Wisley was made so late in the season, as all our stocks of breaks were already planted. I am, however, informed that the trials will be continued over a period of two or three years, and there will thus be an opportunity of arriving at some definite conclusions in due course, if all the growers are willing to send bulbs, which I urgently request them to do.

Wisbech. G. W. Leak.

CHRYSANTHEMUMS IN TUBS.

We are so accustomed to the cultivation of Chrysanthemums in pots for greenhouse and conservatory use that we are apt to overlook the value of early decorative varieties in the flower garden. A method which has much to commend it is that of growing Chrysanthemums in tubs, and when in flower to stand them out in the pleasure grounds and flower garden. It is surprising to see how one or two tubs laden with blooms will brighten up the surrounding landscape if suitably placed. In Gunnersbury House Gardens, Chrysanthemums in tubs are used with telling effect, as depicted in the accompanying illustration, in which two admirable tubs of the white variety Parisiana are seen. Good cultivation is, of course, necessary to produce profusely-flowered specimen tubs. Three or four plants will suffice to fill out quite a large tub. The training of the plants requires much attention, and it is important that the lower branches should be trained at right angles to the tub, so that the blooms are produced uniformly almost to the ground-level. The value of Chrysanthemums in tubs in the pleasure grounds can hardly be over-estimated, producing as they do bright floral effects in the dull days of autumn, when deciduous trees are almost bare of leaves.

TREES AND SHRUBS.

THE WINTER PRUNING OF TREES AND SHRUBS.

Although a good deal of the pruning required by trees and shrubs is carried on during the spring or summer, a certain amount may be done with profit during the winter months, especially when it applies to overgrown shrubberies and large-growing trees. The pruner must, of course, use his discretion when dealing with flowering trees and shrubs, for it would be out of the question to prune those during winter which blossom from the old wood, unless the pruning consisted of a little thinning of crowded branches; but those shrubs which bloom on the current year's wood, such as the summer-flowering Spiræas, Hypericums, Tamarix pentandra and Hydrangea paniculata, may be pruned towards the close of winter. Some people even prune these subjects before the end of the year, but it is not a good plan, for if a spell of very mild weather is experienced after the pruning, the buds begin to burst and the young shoots fall a prey to the first frost; whereas, in the event of the plants being left unpruned until February, young shoots are only likely to break prematurely into growth on those parts which will be cut away eventually in the ordinary course.

Overgrown Shrubberies.—Winter is the time to take such places in hand. Where a shrubbery has been planted fairly thickly to create an immediate effect, it is necessary to pay particular attention to pruning and thinning as soon as the plants touch each other, else, in the course of a few years, the majority will be spoiled. The best plan to adopt is to go carefully through the shrubbery and mark any plants that require moving bodily. Then decide whether all are worth keeping. In the event of a number being unsuitable for transplanting, cut them out and burn them at once. Then remove the remainder. The permanent plants may then receive attention, and a certain amount of regulating and thinning will be necessary. Whenever possible, branches should be removed bodily instead of being shortened, and on no account shorten branches in such a manner as to leave an unnatural, globular outline to the shrubs. Such pruning is often noticeable in suburban gardens during late autumn and early winter. A sudden mania arises for cleaning up and pruning, and pruning frequently takes the form of clipping all loose growths of small trees and shrubs, so that they have a heavy, compact appearance. The writer has seen Thorns, Barberries, Diervillas, Privets, Mock Oranges and other subjects all treated in this way. Needless to say, there were no flowers the following year, and the owners of the plants wondered why. Evergreens which are to be transplanted may be pruned at this time, though any general pruning required by evergreens should be left until the spring.

Old Trees.—But it is large-growing trees rather than shrubs that offer work to the pruner at this time of the year. On every large estate and in almost every garden there are trees which contain

CHRYSANTHEMUMS IN TUBS PLACED WITH GOOD EFFECT IN THE PLEASURE GROUNDS.

dead branches or show signs of decay, and such trees may well be taken in hand during the winter. Nothing detracts from the appearance of a garden so much as dead and dying branches about the trees, and numerous gardens which are otherwise well kept offer this defect. A couple of men with the necessary tools can make a considerable difference to the average garden in the course of a few weeks. One man, however, must be a good climber, for it is impossible to prune large trees from ladders. When such trees as Oaks, Elms and Sweet Chestnuts have become "stag-headed," or, in other words, their upper branches have died, they may often be rejuvenated by removing the dead parts to the highest living branchlets. Care must be taken, however, to preserve the natural outline of the tree during the work, and in some cases it may be necessary to remove a branch much lower than the highest living branchlet. Where there is danger of injuring anything beneath the tree by the fall of the branches, it will be necessary to sling the dead parts. This is done by securing a rope round the portion to be removed, and fastening the other end round the base of the trunk in such a manner that when the branch is cut away it will remain supported by the tightened rope resting in a fork between two of the upper branches. It may then be lowered to the ground without danger. Branches about other parts of the trees may be removed in a like manner, but they must be cut away eventually quite close to the bark. Very heavy branches may have to be removed in several pieces. All wounds so made must be dressed with coal-tar before leaving, otherwise they will form a resting-place for the spores of parasitic fungi.

Holes in trees may also be stopped during the winter. Scrape out as much of the dead wood as possible and cut away the margins of the holes until living wood is found. Paint the decayed parts with a strong solution of carbolic acid; then give a coat of tar and fill the holes with cement, or, if they are large, with deep cavities, with a mixture of bricks and cement. In some cases it may even be desirable to build up the cavities with a brick wall. In any case the work should be finished by a smooth cap of cement, which, when dry, may be tarred over or otherwise coloured to render it less conspicuous. Decayed patches of bark should be cut away to where living bark is found. The wood beneath should be scraped quite clean, and then be painted with carbolic acid, finishing off with a coat of tar. Fungous growths which appear on trees should be collected and burned as soon as they appear, for they are a source of danger to other trees. Trees from twenty to forty years old which are planted in the open often require a little attention, which can be given conveniently during the winter. The branch system often becomes too dense and interferes with the upward development of the trees, or a number of leading shoots may appear to each tree instead of one vigorous leader. In such cases branches may be removed bodily close to the trunk, and rival leaders may either be cut clean out or be shortened. Lower branches of trees which are interfering with the free uses of lawns may be removed at this time also; but in carrying out this work care must be taken to leave the branches of different trees at varying distances from the ground, for, if all are removed to a general height, the effect will be anything but pleasing. It will thus be seen that any spare time which may occur during the winter may be profitably spent in work which will result in prolonging the life and increasing the beauty of trees, in addition to assisting in beautifying the garden. K.

THE NEW CYPRIPEDIUM OLYMPUS. THE FLAT WHITE DORSAL IS 3½ INCHES ACROSS.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Chrysanthemum Pink Pearl.—A very beautiful decorative variety with reflexing petals, and of a delightful pearl pink shade. A quite charming and useful addition by reason of colour alone. From Messrs. H. J. Jones, Limited, Lewisham.

Chrysanthemum Mme. Theresa Morel.—Large exhibition variety of the drooping type of Japanese. The colour is pale yellow.

Chrysanthemum Daily Mail.—A handsome, well-built—even if a little informal—incurving Japanese variety. The florets are less formally imbricated than in some; hence the new-comer does not please those who would have every floret "so." Notwithstanding, it found many admirers, and gained its award of merit by an almost unanimous vote. The colour is rich yellow.

Chrysanthemum Golden Mensa.—The name is fully descriptive. Mensa, the pure white variety, represents, without doubt, the highest excellence to which the single-flowered Chrysanthemum has as yet attained. The one above named is a counterpart of the type, differing only in colour, which is of richest golden. It cannot fail to please.

Carnation Champion.—A very fine scarlet-flowered self, which, if not of the highest excellence and finish, is still a grand Carnation in some respects, particularly of colour and fragrance. The latter alone should make it popular. This and the three foregoing Chrysanthemums were exhibited by Messrs. W. Wells, Limited, Merstham, Surrey.

Carnation Gorgeous.—This fine American-raised sort promises to surpass all others of the Perpetual-flowering Carnations of the cerise-coloured set. In colour it is best described as a glowing cerise, with much less of the blue pigment than is seen in some. Its lighting-up attributes are remarkable. We know of no Carnation so distinctly brilliant and effective when under artificial light. From Messrs. Stuart Low and Co., Enfield.

Iris Vartani White Pearl.—A delightful and nearly pure white form of this early-flowering species. The pretty flowers are 4 inches to 5 inches high, and arise amid pointed leafage of nearly twice that height. The species is most probably closely allied to I. reticulata, and with the white form here given is well suited to the alpine-house. From Messrs. R. W. Wallace and Co., Colchester.

NEW ORCHIDS.

AWARDS OF MERIT.

Foremost among the new Orchids was Cypripedium Olympus, from Lieutenant-Colonel Sir George Holford's wonderful collection at Tetbury, Gloucestershire. This is a massive flower of bold form, having a well-expanded white dorsal (see illustration) with a green base. From the same collection came the Westonbirt variety of Odontoglossum crispum Xanthotes. Other novelties to gain distinction were Cypripedium Stella, from Messrs. Sander and Sons; Lælio-Cattleya Olenus Blenheim Variety, sent by His Grace the Duke of Marlborough; Sophro-Lælio-Cattleya Niobe, from Messrs. Charlesworth and Co.; and Cattleya andreana McBean's Variety, from Messrs. McBean and Co.

The foregoing novelties were granted awards by the Royal Horticultural Society on November 4.

GARDENING FOR BEGINNERS.

THE WINTER TREATMENT OF FLOWER BORDERS.

During the early autumn months there is much work of a seasonable character among herbaceous border plants that is better done at that time than at any other period of the year. This is true in spite of the fact that quite a large number of herbaceous plants are of a long-suffering nature, and submit to division and replanting at almost any time with impunity. In the autumn, however, when flowering has ceased, there is a general desire for tidying up, and at such times much useful work may be done. The cutting down of all plants may be proceeded with at once, taking care that in so doing labels are not disturbed, or even lost altogether. We grow these and other garden flowers chiefly for ornament or for their usefulness in a cut state.

Renovating the Border Soil.—With the cutting down of the plants completed, it must be decided whether forking, digging, or manuring is necessary. Needless to say, the first and last of these will benefit both the border and the plants it contains. The addition of manure by its bulk alone lifts, lightens and aerates the soil, and in so doing performs important work quite apart from its enriching effects. The best manure to employ is that of a short, well-decayed nature. Failing this, Hop Manure is very desirable, and is capable of similarly good work. At such times, too, a free addition of lime may with decided gain be given to all soils of a heavy or water-holding nature.

Overgrown Plants.—Not a few of the best border plants are of so robust a nature that they quickly form mats of growth, which if left undisturbed will prove their own undoing in the near future. The digging up, dividing and replanting of such as these is, therefore, of importance at this time. The white perennial Marguerites (Chrysanthemum maximum and its varieties), Michaelmas Daisies, Rudbeckias, Heleniums, Helianthus rigidus in variety and Achillea Ptarmica are some of those that benefit by being divided and replanted each year. The varieties of the two groups first named quickly exhaust the soil, and manure should be added freely in such cases.

Change of Station.—One of the greatest aids to success in the case of soil-robbing or soil-exhausting subjects is to give a complete change of station or position. The one need be but a yard or two yards removed from the old position, there to find all the advantages which a change of soil brings in its train. The idea is simple in the extreme and its importance infinite, despite which it is rarely done. A much more frequent way is to lift a plant and, having dug and manured the ground, replant it in the old position. By these means a partial change of soil only is secured, while in that suggested above it is complete and entire.

Plant Selection and Discarding.—In the case of the more robust-growing, mat-forming subjects, a considerable amount of plant material will have to be discarded. With not a few amateurs or beginners this goes very much against the grain, yet it has to be done if good results are to be obtained. The replanting of big clumps of things—Trollius, Pyrethrum, Flag Iris or Michaelmas Daisy—is a fallacy; the youthful plant is capable of much better work, and is commended to all. When replanting such as the white Marguerites or Michaelmas Daisies, only the strongest, outermost portions of the clumps—those that have developed with light and air all around—should be retained. The superiority of these compared with the innermost shoots of a plant will be obvious at a glance. Single growths, if well rooted, are the best, and, of these, six or a dozen arranged a few inches apart will not only form a goodly group, but provide a display of the finest flowers in due season.

A BORDER OF HARDY FLOWERS. MUCH WORK CAN NOW BE DONE TOWARDS OBTAINING A DISPLAY NEXT SUMMER.

Plants Slow to Establish themselves, as, *e.g.*, Pæonies, Japanese Anemones, Day Lilies, Cimicifuga, Christmas Roses and others, dislike—some even abhor—frequent root interference. Such as these should have the soil carefully forked about them, keeping at a respectful distance meanwhile, and a dressing of manure given. The Japanese Anemones may remain good for years with an annual mulching. Delphiniums or Larkspurs are good for three years without disturbance, a similar remark applying to the herbaceous Phloxes.

E. J.

TENDER PLANTS IN COLD FRAMES.

A great many tender plants are safely wintered in cold frames, and, on the other hand, a good many perish therein. The greatest enemy to contend with is damp, and therefore precautions should be taken to combat it as far as possible. In the first place, the bottom of the frame should be above the surrounding ground, and the bottom covered with ashes (not too fine) or some similar material. Then, when the plants are placed in their winter quarters, they should be kept as dry as possible, consistent with safety. Until the frosty weather comes, air should be given night and day, so that the plants are kept in as dormant and hardy a state as possible. The lights, of course, should not be left off during rains; but when air is desirable, they may be tilted during the night. This will keep the plants in as good a condition as possible to withstand severe weather. When the time comes round in which frosts may reasonably be expected, the exposed sides of the frame should be banked up with some frost-resisting material, such as litter, Bracken, leaves, or anything in that way. It should be as dry as possible when put into its place, as dry material of any kind resists frost much better than when it is wet. In the event of severe and long-continued frost, the occupants of the frame may become frozen, despite the covering of litter. In this case nothing can be done, and the least harm will accrue if the plants are allowed to remain undisturbed. When the thaw comes is a very critical time, but with a little care the risk of injury may be greatly minimised. However pronounced the thaw, the frames should be allowed to remain shut up for twenty-four hours and the plants kept in absolute darkness. Then, at the expiration of that time, the lights must be tilted a little at the back, which is the highest part, in order to allow the moisture to escape, but not enough to admit daylight. They may be left in this way for two or three days, and after this the plants inured gradually to the light. Then, as soon as possible, the frame should be examined to ascertain the condition of its occupants, and also for the removal of any decaying leaves. In this way many tender plants may often be brought safely through a period of severe frost.

H. P.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Care of Plants in Frames.—Stock Geraniums that were lifted and potted when clearing the beds will have lost a good deal of foliage, and will be greatly benefited by a good pick over, cutting back any decaying shoots into the older wood. A little heat must be maintained to keep the plants growing quietly. By so doing, nice stocky cuttings should be ready for propagating early in the New Year.

Autumn-Rooted Cuttings of Zonal Pelargoniums will also be all the better for a good pick over, at the same time spacing the plants a little so that they keep in a stocky condition.

Marguerites that were put in during September or October have made considerable progress owing to the mild weather, and potting off should be done at once rather than let them become leggy through overcrowding. These may be kept in the cold frame, but water should be sparingly given, or the plants may suffer in the event of very severe frost.

Calceolarias, Veronicas and Antirrhinums are all rooted by now, and plenty of air should be admitted to the frames when the weather is at all open. Keep all decaying leaves picked off and the soil only moderately moist.

Echeverias and Sempervivums planted in frames must also be kept dry overhead, or there may be considerable decay of the under leaves. If this is noticed, a careful picking over will probably stop it, and if done now they should go through the winter nicely.

Coleus, Alternanthera, Iresine and Heliotrope must all be given a fair amount of heat to keep the roots active and the plants growing healthily during the dull days of winter; and to keep the plants stocky, give as much room between the pots as circumstances will allow.

Sweet Peas sown in the open air should now be 1 inch or 2 inches through the ground, and protection will be needed against birds and slugs. Netting and soot should prove effective. In exposed positions a few twigs on the windward side of the rows or clumps should protect them from wind and frost.

Seeds Sown in Pots the middle of October will also need attention, and now that the seedlings are nicely through the soil, all the air possible must be given to the frames. No half-hearted methods are admissible here. Take the lights right off during fine weather, and if mild and wet, put a 6-inch pot under each corner of the lights and thus admit all the air possible. Keep the soil in the pots as dry as possible, especially so in the case of the white and mauve varieties, which are acknowledged to be rather weaker than the other colours. With this kind of treatment it takes a good deal of frost to injure them, though it must be borne in mind that it is the sun after the frost that is more often the source of trouble.

Plants Under Glass.

Cinerarias.—The earliest batch may now be running up to flower, and should be given a small dressing or two of Clay's Fertilizer or some such mild manure. If they are required shortly, a little extra heat may be given, but it is inadvisable to overdo them in this respect. Later batches must be given more room as they require it, so as to keep the plants shapely and the foliage in a hardy condition. Fumigate occasionally to keep down green fly; this is much easier and cleaner than spraying.

Primulas.—Early batches are now making a bright show, and to preserve the flowers in a good condition, a moderately dry atmosphere must be preserved. The Primulas like a damp bottom to stand on rather than a dry lattice staging. These, too, may be helped with a little manure; but it must be noted that plants at this season do not require as much feeding as plants growing freely in the summer months. Watering being less frequent, it does not get washed through the pots so quickly.

Lily of the Valley.—If bloom is wanted for Christmas, Berlin crowns must be put into heat at once; but the better practice is to secure retarded crowns for blooming up to the end of January, when the non-retarded Dutch and Berlin crowns will force with much more certainty of getting good results. A few pots put in heat once a week should ensure a succession of flowers, and those who have not had experience of retarded crowns should note that a temperature of 55° to 60° is better than one much higher, the blooms being of better substance and lasting longer.

The Kitchen Garden.

Hot-Bed Material.—For very early Carrots and Lettuce, sowings should be made early in December or as soon after as possible, so that material for hot-beds should be prepared at once. Good, strawy litter, with a certain proportion of leaves, is the best for the purpose, and if it can be prepared by turning a few times under cover, so much the better. If too wet when it is finally made up into hot-beds and trodden well, it sometimes fails to heat, and the name is somewhat of an anomaly; and if too fresh, the heat rises very quickly and fails to last. So what should be aimed at is a bed that will give a fair amount of warmth over a long period, this being especially necessary at this season of the year, though, of course, a lining of fresh manure can be given to the frames when the heat is subsiding a little.

Fruits Under Glass.

Sulphide of Potassium for Peach Trees.—During a conversation with a large grower of Peaches for market, I was somewhat struck to find that the said grower rarely, if ever, syringed his trees during the growing season. I naturally asked how he kept down spider. "Quite easily," he said; "I dress or spray the trees two or three times during the winter and spring before they bloom with sulphide of potassium (I presume at about half an ounce to the gallon of water), and this keeps them entirely free." I have no actual experience of this method of keeping down spider; but as the grower is a good man and not likely to make many mistakes, those who are troubled in this way might do worse than try what a dressing or two of sulphide would do if carefully applied during the winter months. I have used this for many subjects, and have never found it to injure them if carefully applied.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Mice Attacking Bulbs.—Spanish Irises, Tulips and Crocuses (especially the yellows) are very apt to be attacked by mice during the winter months, so a close watch should be kept on these marauders. I find Rodine a very effectual poison; it can be spread over pieces of buttered bread and placed under an inverted flower-pot slightly tilted up, so as to be out of the way of cats and dogs. Small spring traps of the "Gert" type also answer very well; these should be set about dusk and lifted early in the morning, or robins instead of mice are apt to be caught.

Sweet Pea Stakes.—There are now several types of these on the market, including wire columns, wire hurdles and collapsible hoop-and-net trainers. These are all excellent in their way, but for those who can procure them on their own property nothing is better than, nor, perhaps, quite so good as, natural stakes of Beech, Elm or Hazel branches. Now that the sap has gone down, these may be secured at any time, and be trimmed and pointed with a hedge bill.

The Rock Garden.

Cleaning Up Leaves.—The trees are now pretty well defoliated, and in many gardens, through the influence of the wind, many nooks and crannies of the rock garden have got a plentiful supply of them. In some cases, a few leaves around a subject of doubtful hardiness might do good. As a rule, however, the effect is detrimental; therefore they should be carefully cleaned away.

Stock in Frames.—Seedlings or rooted cuttings in frames should be frequently examined, to see that they are not suffering from lack of water, damp, or the attacks of rats and mice. Give them abundance of air, but protect from the winter rains.

The Rose Garden.

Protecting Climbers.—As a result of the heavy losses among climbers last winter, suggestions have been made as to the means of preventing a recurrence of such heavy losses. Some of these suggestions (such as that of annual transplanting) are, I fear, impracticable. In the colder districts, however, something could be done. A light protection of Heather, Bracken, or Spruce or Yew twigs would in many cases carry the plants safely through the winter. In certain positions it might be well to untie all the shoots, then tie them loosely together in small bundles, lay them down on light supports, giving them a little protection with some of the materials indicated above; Broom or Wheat straw might also be used. Whatever system is pursued, however, air should be freely admitted among the shoots.

Plants Under Glass.

Chrysanthemums.—Although too early to commence propagation in earnest, yet, in the event of a scarce or shy variety showing a good cutting or two, they should be taken without hesitation.

Forcing Bulbs.—Hyacinths that are wanted in bloom at Christmas must now be afforded a temperature of from 55° to 60°, care being taken that they are not allowed to suffer for lack of water. Succession batches of bulbs should be brought on in a cool structure in rotation; better results are always obtained by gradual forcing than by forcing hard. What are being sold by some firms this season for the first time as "Prepared Hyacinths" are said to flower a month earlier than ordinary bulbs, the subsequent culture being the same.

Primula malacoides.—This attractive Primula is apt to give trouble through the flowers damping off. While it will not stand coddling, it should have a night temperature of from 45° to 50°, with a free circulation of air on all favourable occasions.

Fruits Under Glass.

Peaches.—The work of pruning, even in late houses, should now be brought to a close as soon as convenient. The trees should be as fully exposed to the air as circumstances will permit. The glass and woodwork should be thoroughly cleaned, mixing a little petroleum with the water used in washing. The trellises should then have a cloth steeped in neat petroleum drawn along them. The walls should be washed with hot lime and the trees be painted with Gishurst Compound or XL All Insecticide, after which they should be tied into position.

Early Vinery.—In a house where forcing was commenced at the beginning of the month, the night temperature should now be from 50° to 52°, with a rise of 5° during the day. The rods should be sprayed not later than 2 p.m.

The Hardy Fruit Garden.

Pruning Apples.—Where summer pinching has been done and the trees have been attended to in past years, with any necessary root-pruning or replanting, the work of pruning will be a comparatively easy matter, as fruit-buds will predominate. Still, the trees must be carefully gone over when there is no frost present, and the pinched shoots must be cut in to within an inch of the base. Old spurs which have become too long should also be cut in to one or two buds, and in training young trees, spurs should not be allowed to form nearer than 6 inches to each other.

The Vegetable Garden.

Rhubarb.—Where a dish of Rhubarb is wanted at Christmas, a few stools should now be introduced to heat. A temperature of 55° by night will be found suitable. Keep the stools dark and free from currents.

Seakale.—This crop can be mildly forced by the following method: Drive in stout wooden stakes, 30 inches high, at intervals along the rows; then run a light rail along the top of the stakes. Now cut a number of rough slabs of wood the requisite lengths, and lay them against the rail in a sloping position, forming an inverted V-shaped covering over the plants. When the requisite number of rows have been thus treated, fill up the intervening spaces with freshly-collected leaves.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

NEW RULES FOR ENTERING DAFFODILS FOR AWARDS.

At the meeting of the Royal Horticultural Society on the 4th inst., the President and Council adopted the following new rules submitted by the Narcissus and Tulip committee of the society. The rules will take effect from January 1, 1914.

1. It must be clearly stated on the entrance form of any variety which is submitted to the committee for an award under which of the following heads the sender wishes it to be judged: (*a*) as a show flower, or "show"; (*b*) as suitable for garden decoration, or "garden"; (*c*) for growing and flowering in pots, or "pots"; (*d*) for cutting or market purposes, or "cutting"; (*e*) as a plant for rockwork, or "rockery." N.B.—Any one variety may be entered under more than one head.

2. The following conditions must be complied with in all cases: If submitted under (*a*), five stems with bloom are necessary for an award of merit, and twelve stems for a first-class certificate. If submitted under (*b*) and (*d*), for either award of merit or first-class certificate twenty-five stems must be submitted in two vases; twelve must be bunched and thirteen be loose. If submitted under (*c*) and (*e*), two pots or pans must be shown, each containing *not less* than three bulbs, for an award of merit. Four pots or pans, each containing *not less* than three bulbs, for a first-class certificate.

3. Official entrance forms will be provided, and may be obtained from the Royal Horticultural Society's Offices. One of these forms must be properly filled up by the exhibitor for each variety before it can be placed before the committee.

4. The words "show," "garden," "pots," "cutting" or "rockery" will in future be added to the usual award of merit or first-class certificate.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

PLANTING WATER LILIES (*C. L. S.*).—If you so wish, you may plant your Water Lilies either in tubs or pots, with every possibility of success. It is, however, necessary to turn them out of their receptacles every February, clean the pots or tubs well, and replant in new soil. Providing the tubs or pots were from 12 inches to 15 inches across and the same in depth, they would contain plenty of food material to keep the plants going for a year. Baskets will answer the same purpose, but there is danger of their rotting and allowing the soil to escape into the water.

TWELVE HERBACEOUS PLANTS (*E. C.*).—Had you given us the size of the border, we should have been in a far better position to advise you satisfactorily. However, here are some good things which should not be absent from any garden: Aster Amellus, A. Beauty of Colwall, Aquilegia chrysantha, Campanula persicifolia alba grandiflora, Chelone barbata Torreyi, Delphinium Rev. E. Lascelles, Erigeron speciosus superbus, Eryngium amethystinum, Geum Mrs. J. Bradshaw, Gaillardia Lady Rolleston, Incarvillea Delavayi, Iris pallida dalmatica, Phlox Mrs. E. H. Jenkins, P. Baron Van Dedem, Pyrethrum Hamlet, P. Aphrodite and P. Ne Plus Ultra.

TREATMENT OF BULBILS OF LILIUM SULPHUREUM (*G. W.*).—It would be a good plan to repot your bulbils of Lilium sulphureum now, as they would then root steadily throughout the winter. A mixture of loam, leaf-mould or peat will make a suitable compost for them. The loam should form two-thirds of the whole. During the winter they must be kept in a greenhouse or frame where they are safe from frost, and enough water should be given to keep the soil slightly moist, as in this way the roots are kept active. With the return of spring and increased growth, more water will, of course, be needed. In preparing the pots for the reception of the bulbils, effective drainage is very necessary.

FLOWERS FOR CUTTING (*W. B. A.*).—The following plants will produce white flowers suitable for cutting. All may be planted now: Phloxes Harry Veitch, Mrs. Forbes, Tapis Blanc and Sylphide; Lupinus arboreus Snow Queen, Hesperis matronalis (white variety), Christmas Rose (Helleborus niger), Chrysanthemum Parthenium flore pleno, Achillea The Pearl, Anemone japonica, Snowdrops, Narcissi, such as the Poeticus and Tazetta varieties, also the newer Poetaz forms; Tulips in variety, Hyacinths, Lilium speciosum album and L. longiflorum varieties. Although not white-flowered, the Spanish and English Irises are very useful for cutting. You might also make sowings of Sweet Peas, and plant a few clumps of the red and white varieties of the Everlasting Pea (Lathyrus latifolius). These flowers will answer for church decoration.

TREATMENT OF GAZANIAS (*G. W.*).—You are somewhat late in interesting yourself in the wintering of Gazanias, as this is a matter that should have been taken in hand before now. Cuttings taken in August and placed in sandy soil in a close and shaded frame will root without any difficulty, and if, when potted off, they are kept in a light and airy structure, no trouble will be experienced in keeping them through the winter. Even now, provided you have a snug little structure kept at a temperature of 50° to 60°, a fair percentage of cuttings may be struck. They should be shaded from the brightest sun, and care must be taken not to overwater them. The old plants may also be lifted and potted or laid in boxes and placed in a good, light position in the greenhouse. Before potting, straggling roots and shoots should be shortened back in order to economise space, leaving as many as possible of the shoots near the centre of the plant.

PLANTING EREMURUS (*M. A.*).—You will find that the species of Eremurus will prove more satisfactory if grown in a border with other plants than if planted on a lawn, for, except when in bloom, the various kinds are not very ornamental, and the leaves become decidedly untidy towards the middle of summer. At the same time, they must not be planted in places where the roots are likely to be damaged by digging holes for other plants. They usually give satisfactory results when planted among low shrubs where sufficient space has been left between the shrubs to allow of the proper development of the leaves. Do not plant entirely in leaf-mould. Provide good loamy soil and dig some leaf-mould among it. The soil should be at least 12 inches to 15 inches deep. If a clump of Eremurus plants is formed, Lilies may be planted between, providing the former are not very close together. The evergreen shrub is Coronilla glauca.

BEE FLOWERS (*W. B. A.*).—The flowering shrub to which you refer is apparently Buddleia globosa, although we have not previously heard it called by the name of the "Honey Ball Tree." It is a great favourite with bees. The following plants are all appreciated by bees: Arabis albida, Wallflower, Heather, Clover, Lime, Lavender, Buddleia variabilis varieties veitchiana and magnifica, and Michaelmas Daisies. The Arabis is excellent for planting near hives on account of its early flowers in spring. Bees collect a great deal of pollen from its flowers. Likewise the Michaelmas Daisies are valuable for autumn. Your garden soil may be improved by trenching it 2 feet to 2½ feet deep, and adding grit, long horse-manure and burnt clay to the subsoil. When trenching, be careful that you do not bury the surface soil. Keep that to the top all the while, but thoroughly loosen the lower soil and incorporate the manure and other materials with it. Well-rotted manure should be used for the surface soil. If the soil is deficient in lime, the shortage may be made good while the work is in progress. The following evergreen trees and shrubs are likely to serve your purpose: Pinus insignis, P. Pinaster, Cupressus macrocarpa, C. lawsoniana, Thuya plicata and Quercus Ilex among trees; and Berberis stenophylla, B. Darwinii, Escallonia macrantha, Rhododendrons in variety, Elæagnus pungens variegata, E. macrophylla and Choisya ternata among shrubs.

LAYING OUT A GARDEN (*Amateur*).—The first thing to do with a garden as long neglected as the one you refer to is to rid it of all superfluous material—weeds, useless, overgrown or decaying shrubs—and make a bonfire of them on the spot. If the grass with which you say the garden is overrun is one of the common meadow grasses, it will be easily got rid of by cutting down and burning the tops, and by subsequently trenching in the roots. If, however, it should prove to be the Couch Grass, with long, whitish roots spreading underground, nothing short of forking the whole area and picking it out will suffice. This work needs to be carefully done, since every scrap of root is capable of making a new plant. With a clearance thus made you will be able to discover any pathways, should such exist, since the garden may be made to conform to them in some measure. If no paths exist and you have a clear course before you, we suggest you lay the garden out as follows: We will assume that the house is at its southern end, and that there is a side entrance to it. In such case trellis off at the back a space of 12 feet, arranging a border 3 feet or 4 feet wide in front of the trellis, to be presently planted with Roses, Carnations, or what you will. The trellis also should be planted with climbing Roses. In front of the border a path 4 feet wide should be made. On either side, borders 3 feet wide for hardy herbaceous plants should be formed, with paths not less than 3 feet wide in front. The central portion, to about half the length of the ground, might be laid down in grass, with flower-beds at the four corners; beyond this, a vegetable garden plot—it may be made large or small, as befits your requirements—to be shut out from view by a lattice wood screen or by a hedge of Yew, Holly or Privet. If you are fond of fruit, four bush pyramid Apples—one at each corner—should be planted. The paths in this section need not be quite so spacious as those in the flower garden portion, but for convenience should encompass the plot after the fashion of the flower garden. In such case the side borders could be devoted to the raising of Lettuce, Radish, Spinach, Carrots, Shallots, Onions, together with Mint, Thyme, Parsley and other useful things, while the larger central plot could be devoted to bolder-growing subjects. Needless to say, the soil of a garden so long neglected will require deep cultivation, with heavy manuring in all parts save that set aside for the lawn. You say nothing of the character of the soil, so that we cannot help you more definitely. Dry paths in all gardens are very desirable; hence you had better excavate the soil to about a foot deep, filling in first with clinkers and rough ashes, and finally with fine ashes or gravel for the surface. The excavated soil from the pathways should be turned on the border portions to increase their depth and save labour in carting elsewhere. When this is done, the rough clinkers may be introduced, leaving the surface covering for the paths till the last. As you say you know nothing of the work, it would be advisable to obtain the assistance of a practical gardener.

THE GREENHOUSE.

OLEA FRAGRANS (*H. E. B.*).—The plant concerning which you enquire is undoubtedly Olea fragrans, a native of China, whence it was introduced as long ago as 1771. The flowers, though small, are deliciously fragrant. It is fairly hardy in the South of England, and should prove quite so with the protection of a wall. At one time it was more grown as a conservatory or greenhouse plant than it is now, its ornamental leafage and sweet-scented flowers being its greatest recommendation. So fragrant are the blossoms that a single plant will make its presence known in a good-sized structure. Besides the ordinary form with white flowers there is one sometimes met with in Italian gardens, in which the blossoms are of a yellowish buff tint.

ARUM LILIES FLOWERING TOO SOON (*T. S.*).—You can do nothing to prevent your Arum Lilies from flowering now, as the scapes are quite ready for pushing up and will naturally do so. You could not do more than you have done to keep them back. The best thing to do will be to cut the flowers off now as they appear, and keep them in a comparatively quiet state till after Christmas. Then encourage them to grow by a little additional warmth, and an occasional stimulant if the pots are well furnished with roots. By this means you will have flowers at Easter, but, of course, forethought must be exercised in that respect, as the development of the blossoms largely depends upon the weather and other particulars which it is impossible to foresee. Thus, as Easter approaches, if the flowers are likely to be too early, keep them cooler, while, if backward, give them a little additional heat.

TO TURN HYDRANGEAS BLUE (*J. A.*).—Various prescriptions for turning Hydrangeas blue have at one time or another been published, but invariably with success. The most effective that have come under our notice are two preparations the composition of which is kept secret, namely, Azure and Cyanol. The first named (Azure) is a speciality of Messrs. William Cutbush and Son, Highgate. They have, during the present season, shown numerous examples of Hydrangeas whose flowers had been changed to blue by the use of Azure, notably a fine lot at the spring show of the Royal Horticultural Society at Chelsea. The other preparation (Cyanol) is, we believe, from the Continent. It can be obtained from Messrs. William Wood and Sons, horticultural sundriesmen, Wood Green, London, N. Our experience is that the presence of lime in the soil is greatly against the production of blue flowers, and this is borne out by the instructions for the use of Cyanol, viz., the water and soil must be free from chalk. Rain-water is preferable. No artificial manure must be applied.

MISCELLANEOUS.

THE HICKORY BEETLE (*W. G.*).—The insects found in the Hickory wood are the larvæ of the Hickory beetle, an insect which sometimes causes a good deal of annoyance in the United States. It is not a native of the British Isles, but there are other beetles here which act in a similar way. The dark-coloured excavation is not likely to have been caused by the goat moth, but it is not possible to suggest which insect has made it.

TREATMENT OF LAWNS (*W. H. C.*).—The most satisfactory way to clear a lawn of weeds is to encourage the grass to outgrow them; for after a lawn has once become thoroughly weedy, it is a hopeless matter to try to eradicate the weeds unless the grass is made to assist by feeding it liberally. Where coarse grasses exist, it is a good plan to provide a dressing of sea sand at the rate of two cubic yards to the acre; but where the grasses are fairly fine but patchy, it is better to apply good soil free from weed seeds, well-rotted farmyard manure or bone-meal. Soil may be applied to a depth of half an inch, keeping it

raked about well until it disappears. Farmyard manure may be used at the rate of four or five tons to the acre, according to the condition of the grass, and bone-meal may be given at the rate of half a ton to two acres. Good works on lawn grasses are published by Messrs. James Carter, Raynes Park, S.W., and Messrs. Sutton and Sons, seedsmen, Reading. If you wish to remake your Yarrow lawn, it is possible to procure Yarrow seed in quantity from various firms of seedsmen.

FLANNEL WEED IN PONDS (*C. B.*).—The material recommended for destroying Flannel Weed in ponds was copper sulphate used in the proportion of one part of copper sulphate to 750,000 to 1,000,000 parts of water. The chemical should be placed in a canvas bag and be drawn through the water until dissolved. It is usually necessary to apply the copper sulphate two or three times between April and October.

FUNGUS MYCELIUM IN GROUND (*Arminius*).—The fungus mycelium in your garden can be destroyed by digging a trench round the affected area deeper than the mycelium penetrates; then digging unslaked lime into the affected ground. A little fungus may appear again next year, but a second application of lime should prove effective. Fungus mycelium may also be killed by soaking the ground with a strong solution of sulphate of iron.

NAMES OF FRUIT.—*R. Y.*—Boston Russet and Marie Louise d'Uccle.——*J. T. N.*—1, Potts' Seedling; 2, King of the Pippins; 3, Hawthornden; 4, Stirling Castle; 5, Lady Henniker.——*Sunflower.*—Large fruit, King Harry; small, Winter Peach.——*Miss S., Lincs.*—1, American Mother; 2, John Apple; 3, Ribston Pippin; 4, Adam's Pearmain; 5, Cellini Pippin.——*W. H. N.*—Ribston Pippin.

NAMES OF PLANTS.—*K. M. R.*—Probably a dyed flower of Anaphalis margaritacea.——*H. P. E.*—Asclepias curassavica; 2, Elæagnus pungens aurea.——*Purley.*—Poterium tenuifolium.——*Enquirer.*—1, Oxalis acetosella; 2, Sedum rupestre; 3, Saxifraga Aizoon; 4, Potentilla species, cannot name without flowers; 5, Polemonium cæruleum variegatum; 6, Lychnis Viscaria; 7, Sempervivum Funckii; 8, Saxifraga Hostii; 9, Veronica speciosa variety; 10, Saxifraga Aizoon variety.——*W. P., Taunton.*—1, Nephrolepis cordifolia; 2, Chrysanthemum, garden seedling; 3, Abutilon species, cannot name without flowers.

SOCIETIES.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE monthly meeting of the Scottish Horticultural Association was held in the Hall, 5, St. Andrew Square, Edinburgh, on the evening of November 4. Mr. David King, Osborne Nurseries, president of the association, occupied the chair. The exhibits before the meeting were of some interest, and consisted mainly of Chrysanthemums. Mr. W. G. Pirie, gardener to C. W. Cowan, Esq., Dalhousie Castle, exhibiting four single varieties, for which a cultural certificate was awarded. These were Miss H. M. Cowan, Miss Callender, Weston Gem and Ceddie White. Mr. R. H. Cockburn, gardener to Sir C. W. Cayzer, Gartmore House, Perthshire, exhibited a new single Chrysanthemum, Lady Cayzer. Potato Irish Gem, from Mr. W. H. Sands, Hillsborough, County Down, Ireland, was awarded a cultural certificate, and a new wasp and fly trap, invented by Mr. Thomas Reid, Eildon Hall Gardens, Roxburghshire, was recognised by the inventor being highly commended for the trap. The lecture of the evening was given by Dr. W. G. Smith of the Edinburgh and East of Scotland College of Agriculture, and proved one of deep interest and high value. It was well illustrated with limelight illustrations. The subject was "The Influence of Drought on Plant Form." Dr. Smith made an exceedingly able presentment of his subject, discussing it with a wealth of illustration and giving many examples to support the position maintained. The influences of various soils, &c., formed an interesting section, while the effect of experiments on plants cultivated away from their usual conditions was also shown. The whole lecture was full of value for the student of plant-life and for horticulturists in connection with their work. Dr. Smith was heartily thanked.

BIRMINGHAM AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

A SHORT, concise, but practical and comprehensive paper on "The Winter Dressing of Fruit Trees" was read to an assembly of the members of the above society by Mr. R. T. Parker, gardener to Mrs. Lacey, Westbourne Road, Edgbaston, on the 3rd inst. When introducing the subject in so short a paper, he stated that it was his idea to stimulate a discussion that evening which he hoped would result in practical future application. Primarily, uncleanliness was the reason why so many fruit trees and bushes afforded a refuge for insect pests and other germs that are the origin of so many disastrous diseases in the majority of fruits. Therefore, if the grower wished to ensure himself against the loss of valuable fruit, the most effective course was for him to adopt a systematic annual cleansing of his trees. In the snug seclusion of the crevices of the bark around the trees, the insects and their larvæ are secreted, and it is only by persistent application of the respective washes that it is possible to prevent them from attaining maturity. The lecturer clearly demonstrated this in his allusion to the American blight (or aphis), which he had abolished from his trees by the use of a wash compounded from carbonate potash, caustic soda and soft soap, dissolved in water. As this solution is liable to burn the skin of the applicant's hands, if any falls upon them, he usually wears a pair of rubber gloves for protection, and applies it with a knapsack sprayer. Different insects, he said, required different treatment owing to the fact that there are two classes of insect pests—the sucking and the biting. Occasionally the biting insects would survive a wash which, if used too strongly, might permanently injure the particular tree. For the former class of pests, Paris green, a poison, dissolved in water, would be found to be of advantage if used discreetly. Also London purple, a waste material from dyeworks, furnished an economic destroyer of the winter moth caterpillar. Arsenate of lead, too, made a good spray for the biting pests and fungi. Much, he urged, could be done to forward the growth of trees by the use of chemical manures, such as a dressing of basic slag or potash for Black, Red or White Currant trees, while nothing assisted trees of ten to twenty years' standing better than animal manure—especially that obtained from the poultry farm. Although the ensuing discussion was not at first as keen as it might have been, several important points were eventually raised, and these the lecturer replied to in a manner which proved that he was thoroughly conversant with his subject. After the usual vote of thanks the meeting terminated.

CHRYSANTHEMUM CONGRESS AT GHENT.

THE members of the French Chrysanthemum Society held their 1913 Congress at Ghent in connection with the Autumn Show held there from the 25th to the 28th ult. The programme was a full one and included, besides the meeting of the congress, several days' festivities, which were much enjoyed. At the congress meeting M. Viger presided. He was supported on the platform by a bureau composed of the following gentlemen: M. Vernieuwe (the representative of the Belgian Government), M. F. Couillard, M. Rible, M. Ph. Rivoire (secretary), M. Firmin de Smet, M. Rozain-Boucharlat, M. A. Callier (president of the Ghent Society), M. Dubreuil, and Mr. Harman Payne (representing the National Chrysanthemum Society). A paper was read by Dr. Chifflot of Lyons on insect pests, after which a discussion ensued, in which M. H. Crepin, M. Clement and the president joined, and it was resolved that a new edition of the work published by the society some years ago on insect pests and diseases of the Chrysanthemum should be issued shortly. Another paper by M. Godde on the influence of magnesia salts on Chrysanthemums was read and discussed. M. Couillard dealt with the question of a revised classification. Another chemical question was also considered, viz., the effect of sulphur and sulphur compounds on the vegetation of the Chrysanthemum. The congress medal annually awarded was unanimously voted to Dr. Chifflot; M. Couillard was promoted to the rank of Officier du Mérite Agricole; and M. Firmin de Smet was awarded the gold medal of the society in recognition of his hospitality in receiving the society. It was arranged that the next congress should be held at Melun in 1914.

On the Sunday evening the members were entertained by the Royal Agricultural and Botanical Society of Ghent at a reception held in the Casino. They were also provided with special tickets to view the closing ceremony and distribution of prizes by the King of the Belgians. They were likewise invited to a day's outing at Bruges to see the sights of the town and the large nursery of Messrs. Sander and Sons there, and also to a luncheon given by M. Firmin de Smet. Quite a large party, including all the English visitors, accepted. M. Couillard returned thanks on behalf of the French Chrysanthemum Society, and Mr. Harman Payne, opening his speech with a humorous quotation from Molière, which delighted his audience, replied for the English visitors.

CHELMSFORD GARDENERS' ASSOCIATION.

THE third meeting of the winter session was held on the 31st ult. at the County Laboratories. Mr. C. Wakely presided over about fifty members. Mr. Jackson of Braxted Park gave an interesting and practical lecture on "Begonias." The lecturer commenced by pointing out the value of Begonias for decoration, especially the winter-flowering ones. Mr. Jackson divided his lecture into several parts, and dealt with the varieties of Begonias in the order named—Begonia Gloire de Lorraine, winter-flowering Begonias, tuberous-rooted Begonias and fibrous-rooted Begonias. Each variety was dealt with in turn, and the cultivation and propagation explained in a very practical manner. Other subjects, such as staking, watering, potting and insect pests, were also dealt with. A vote of thanks was accorded Mr. Jackson at the close.

ROMFORD HORTICULTURAL AND CHRYSANTHEMUM SOCIETY.

THE annual exhibition in connection with the above old-established society was held in the Corn Exchange, Romford, on Thursday, the 6th inst. There was a very fine display of Chrysanthemums and other flowers, and, owing to the committee having largely substituted vases for the old-fashioned boards, the effect was very charming. Sir Montague Turner, president for the current year, was a very successful exhibitor, his gardener, Mr. Humphreys, staging some particularly good cut blooms and specimen plants. Among the former was the best bloom shown in the open section, the best in the amateur's division being shown by Mr. Bishop of Brentwood. The Rev. E. M. Bell (gardener, Mr. Gilbert) also showed some very fine cut blooms and a particularly good specimen plant. Other successful exhibitors of Chrysanthemums were Messrs. Sewell and Page. Fruit was surprisingly good, dessert Apples being shown in large quantities. Vegetable exhibits, though not so numerous as usual, were of fine quality and well displayed.

NATIONAL CHRYSANTHEMUM SOCIETY.

SELDOM, if ever, have Chrysanthemums of better quality been shown than those at the Crystal Palace on November 5, 6 and 7. The Japanese varieties were quite up to the high standard of previous years, and it was particularly pleasing to notice the unusual number of incurved varieties that were given a prominent position in many groups, in addition to the dressed blooms shown in boxes. Probably no section has made more rapid strides than the singles, and, incidentally, it might be mentioned that some of the leading judges are a little hazy as to what constitutes a single. That there should be no misunderstanding in the near future, it is imperative that the National Chrysanthemum Society should lay down a very clear and definite rule upon this point. The wonderful improvement that has been wrought among decorative varieties is also noteworthy, and the large group of market, decorative and single varieties staged by Messrs. Cragg, Harrison and Cragg of Heston, near Hounslow, was undoubtedly one of the features of the show, more particularly as most of the varieties were of this firm's raising. The magnificent groups by Mr. Norman Davis and Messrs. W. Wells and Co. were deserving of the highest praise, and the large gold medal offered by Messrs. Clay and Son for the best miscellaneous exhibit in the show was awarded to the former. The leading prize-winners were as follow:

COMPETITIVE CLASSES.

The class for a floral display of Chrysanthemums and suitable foliage plants in pots (trade excluded) was won by J. C. Eno, Esq., Wood Hall, Dulwich, with a large circular group that did full justice to Mr. R. B. Leech, the able head-gardener. The arrangement was very artistic. Exhibition, decorative, single and Pompon varieties were pleasingly associated with the ornamental foliage of Crotons, Dracænas and Asparagus. Moreover, the quality of the blooms left little to be desired. Bob Pulling was shown in great form, while Mensa, the choicest of all singles, was seen in the height of perfection. Lady Tate, Park Hill, Streatham Common (gardener, Mr. W. Howe), was second. This exhibit contained blooms and foliage plants of good quality, but we could not help thinking that the exhibit suffered from overcrowding.

There was strong competition in the class for twelve vases of Japanese blooms, the first prize going to Mr. A. Chandler, gardener to Arthur James, Esq., Rugby. Among the best blooms were W. Turner, Reginald Vallis, His Majesty (a rich crimson, shown in remarkably good form), Thomas Lunt and Mrs. Gilbert Drabble. Second, the Marquis of Bute; third, Mr. Philip Ladds.

In the class for cut blooms, open to affiliated societies, the challenge trophy was awarded to the Finchley Chrysanthemum Society for an exhibit which commanded general admiration.

Considerable interest was centred in Class 5, for forty-eight Japanese blooms. The first prize, including the Holmes Memorial Challenge Cup, fell to the lot of Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby. It was a grand collection, slightly undersized, but of good quality and very refined. Of the blooms shown, the following were remarkably good: Lady Talbot, W. Turner, Marie Loomes, His Majesty, Mrs. Drabble, Thomas Lunt and Mrs. F. C. Stoop. Mr. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, Surrey, was second with a weighty set of blooms which were a shade too coarse; third, Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom.

It was pleasant to see four really fine exhibits in the class for thirty-six incurved blooms. The first prize and challenge cup were won by Mr. G. Hunt with a faultless set. His best blooms included Clara Wells, Mrs. P. N. Wiseman, Pantia Ralli, Duchess of Fife and Mrs. F. Judson. Mr. H. R. Farmer, gardener to the Marquis of Bute, was a capital second, followed by Mr. F. J. Brown, gardener to Miss Langworthy, Gays House, Holyport.

Mr. H. R. Farmer, Cardiff, was successful in the class for twelve incurved blooms. His best blooms included G. F. Evans, Clara Wells and Mrs. F. Judson. Second, Pantia Ralli, Esq.; third, Miss Langworthy.

Sir Albert Rollit (president) offered a cup for twenty-four Japanese blooms, and this was won by Lord Foley (gardener, Mr. H. C. Gardener). There was excellent competition, there being ten first-rate exhibits, which created a wonderful display of colour. The somewhat uncommon shades of colour in varieties such as Rose Pockett, Amber Queen, Francis Jolliffe and Master James contained on the winning board call for special mention.

MISCELLANEOUS EXHIBITS.

As usual, these were of exceptional interest, and, together with the displays in the competitive classes, made up an exhibition that reminded us of the days when the Chrysanthemum was at the zenith of its popularity.

Mr. Norman Davis, Framfield, Sussex, set up a large and beautiful exhibit of great artistic merit, representing Japanese, incurved and single Chrysanthemums in superb form and condition. Vases and stands were utilised to display the flowers, and by the aid of choice foliage plants a noteworthy display was made, that won a large gold medal, and Messrs. Clay and Son's gold medal for the best miscellaneous exhibit in the show. This exhibit was set up in front of the Royal Box in the Central Transept, and occupied the whole front.

Messrs. W. Wells and Co, Limited, Merstham, Surrey, also won a large gold medal for a very large and comprehensive group of cut Chrysanthemums, set up in most attractive fashion, and which was admired by crowds of sightseers. Masses of Japanese Queen Mary, Mrs. Gilbert Drabble, Daily Mail and other new and choice Japanese varieties, and a host of beautiful singles and decorative sorts, made a beautiful display of a comprehensive character.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The Scarlet Oak.—During the past few weeks the Scarlet Oak has been very beautiful. Its large leaves assumed a brilliancy of colour not found in those of any other kind of tree growing to as large a size. The first specimen that attracted our attention was growing near the bottom of a high railway embankment, where the roots had a deep, friable loam to grow in.

Protecting Early-Flowering Chrysanthemums.—Now that these plants are over, they should be trimmed up, and those varieties which are required for cuttings lifted and placed in a cold frame, bedding them in leaf-soil, as only a few of the hardiest can be relied upon to stand the winter outside without some protection. By protecting them as advised, much better cuttings can be obtained.

Protecting Ferns with Leaves.—When the leaves are being collected, it will be found a good plan to place some among the outdoor Ferns. It acts as a protection for the choicer and more tender kinds, as well as a mulching, from which the Ferns, bulbs and other plants growing among them will benefit. The leaves should be carefully worked among the plants with the hands, when they will soon get settled down and be quite hidden by the new fronds in the spring.

Rosemary and Carnations.—A few days ago we were short of foliage to arrange with some perpetual or winter flowering Carnations, and toll was taken of the Rosemary bush that nestles by the front door. Two or three good, erect shoots were thrust carelessly into the centre of an old Cornish pitcher that had been loosely filled with Carnations, and the effect was as pleasing as the combination was fragrant. No doubt sprays of Rosemary might be effectively arranged with other kinds of flowers at this season.

Transplanting Montbretias.—Where these have become too thick, they should be taken up now and divided, selecting the strongest bulbs for replanting. When they are to occupy the same ground, it should be well trenched and manured. This useful ornamental plant is often neglected and allowed to become overcrowded, which results in weak growths and few flowers. If the plants are not lifted, it is not wise to remove the dead foliage, as this protects the young, tender shoots, which are so easily damaged by the cold winds.

Proposed Plant Collector for Wisley.—On another page we reprint a long letter that appeared in *Country Life* of last week. The writer of the letter, who is an enthusiastic Fellow of the society, suggests, among other things, that the Council should appoint a plant collector, whose duty it would be to visit foreign countries for the purpose of collecting new or rare plants which could be grown at Wisley. We have reason to believe that some members of the Council have had the subject under consideration for some time. There is a good deal to be said for and against the idea, but it would seem that a wealthy society such as the Royal Horticultural Society now is could with advantage devote some of its surplus funds to such a purpose.

Austrian Heir-Apparent at Kew.—Those who have heard of the Archduke Francis, Ferdinand's interest in horticulture will not be surprised to know that on Sunday last, the day after his arrival in London, a visit was paid to our national garden at Kew. In private life the Archduke takes a keen interest in all that pertains to his own garden. He is said to have largely superintended the laying out and planting of the grounds surrounding Konopischt, his residence in Bohemia.

Lettuces for Winter Use.—Plants growing in the open at this time of the year are more tender and more easily damaged than in the summer, owing, undoubtedly, to the dull weather and short days. If a frame-light can be placed over them, it will be found of great advantage; or plants may be lifted carefully and placed in a frame, taking care not to damage the leaves. Seeds of the Cos varieties may be sown thinly at intervals in boxes or pans and placed in a temperature of about 55° or 60°. The plants will be very valuable for salad during the winter when cut in a young state.

Mid-November Roses.—On looking over the Roses on Monday last, the 17th inst., we were surprised to find quite a number in full bloom. The following list of varieties that were carrying really good flowers may be of interest: La France, Lady Battersea, Lady Pirrie, Frances Charteris Seton, Grüss an Teplitz, Gloire de Dijon, Miss Cynthia Forde, Betty, Nita Weldon, Mme. Ravary Rayon d'Or, Pharisäer, Margaret Molyneux, Mrs. Alfred Tate, Richmond, Lady Alice Stanley, Mrs. A. Munt, Sunburst, Earl of Warwick, Königin Carola, Gustav Grunerwald, Mrs. Herbert Stevens, Orleans, Jessie and Hiawatha. The last named is a weeping standard budded on Rugosa stock, and has been continually flowering since the end of July. Jessie is as bright and full of bloom as in the summer, and Orleans is nearly as good.

Guelder Rose and Traveller's Joy.—These two native plants are very beautiful objects of the country-side at this season. The former, by virtue of its autumnal tints, serves to brighten up many a hedgerow and copse with its brightly-coloured leafage. Everyone is familiar with the Traveller's Joy (Clematis Vitalba), which at this season is especially noticeable on account of its feathery fruits, which have earned for it the name of Old Man's Beard. This subject is often seen clothing trees or rambling over farm buildings. It is singular that it is usually found near to, or associated with, places of habitation, often marking the approach to a village, and this possibly explains the meaning of its name Traveller's Joy.

CORRESPONDENCE.

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

The Almond in Scotland.—The Almond is hardy enough to grow, to flower and to fruit in at least the milder districts of Scotland. The tree succeeds here and occasionally bears abundant crops.—R. P. BROTHERSTON, *Tyninghame, Prestonkirk.*

Rose Peace.—In reply to "Pax," page 559, issue November 8, I beg to say that I do refer to the Tea-scented variety. It has long, pointed buds, the petals being of a pale lemon colour under glass, deeper in the open. I have found this variety very impatient of drip from trees and from buildings; it does not thrive well in very moist soil. Under glass, either in pots or borders, the plants succeed and blossom over a long period.

Prizes for Front Gardens.—I am quite sure that "Marguerite," page 558, issue November 8, will soon see a change for the better if she offers prizes for the best front gardens in the village in which she lives. I have had some considerable experience in the matter of framing rules in such circumstances and in judging the gardens. I do not intend to go into detail here, but would suggest that "Marguerite" takes into consideration the sizes of the gardens, as, if there is a wide margin, it would be more satisfactory to divide them, say, gardens of so many square yards and over, and gardens under the size decided upon. Then the owners of the two classes would compete against each other respectively. The largest gardens are not always the most beautiful, but it is a fact that the owners of such have a better opportunity of making them more beautiful. From experience I have found it was never satisfactory to class small gardens with large ones. —G. G.

Rose Irish Fireflame.—The accompanying illustration is interesting. It represents two maiden plants of Irish Fireflame whose life-history is briefly as follows: Rather than obtain buds in the usual way, two pot plants of Irish Fireflame were purchased from Messrs. Alexander Dickson and Sons of Newtownards towards the end of July last. The Roses obviously had been grown under glass, and although the wood was well ripened, it was thin, and, consequently, some of the buds were very small, certainly no larger than the ordinary pin's head, so that it was found impracticable, if the bark and bud were not to be injured, to remove the "wood" behind the bud, and the buds were put in with the wood on, just as they were cut from the parent plant. The two stocks shown in the illustration were budded on August 2, and the buds immediately started growing. The photograph was taken on October 13, but before that date several of the crown-buds had flowered and had been removed. On the day the photograph was taken, one plant had thirty-four buds on and the other thirty-three, a good many of which have since flowered. The growth is strong and over four feet in height, and is nearly double as thick at its base as the ordinary Bamboo cane to which it is tied. I think this result out of doors, obtained in no more than eight weeks from the insertion of the bud, is unusual; it undoubtedly speaks well for the vigour and growth of Irish Fireflame, and at any rate demonstrates its very free-flowering character, both of which points have, I think, been challenged in your columns. The plants are growing in the garden of Mr. E. M. Burnett in this town; they were budded by himself, and have not been fed or forced in any way. The other plant shown in the illustration is a stock budded with Mrs. J H. Welch, and the growth of the sprung bud is again very vigorous, but is more normal in character. It also was budded at a somewhat earlier date than the stocks bearing the Irish Fireflames.—HERBERT E. MOLYNEUX, *Southampton.*

TWO PLANTS OF ROSE IRISH FIREFLAME EIGHT WEEKS AFTER THE BUDS WERE INSERTED IN THE STOCKS.

Nerines Flowering Outdoors.—Your correspondent "C. Q.," in your issue of November 15, page 570, sends an interesting picture of Nerine Bowdenii flowering in the open, and goes on to hint that, in common with other correspondents of yours, I am unaware of the hardy qualities of certain of the Nerines. So far as N. Bowdenii is concerned, I may say that I have seen flowers of it cut from the open in the South-West of England, and Mr. S. T. Wright of the Wisley Gardens has assured me of its hardiness there; but at present I have no authentic evidence of the hardihood of any of the other species. But all this is rather beside the point. I am very much disposed to think, from what evidence I can gather at present, that the Nerine will never be so charming a plant, and will never exhibit its beauties to such perfection, in this climate when grown outside as when given pot cultivation and the protection afforded by glass; and for this reason I may perhaps be pardoned for reiterating my advice to those who regularly house some Chrysanthemums (also, as I am aware, hardy plants!) to devote some of their glass to the Nerine. —F HERBERT CHAPMAN.

Autumn Planting.—One often sees reference to the importance of early planting, without any regard to the condition of the soil being emphasised by writers when dealing with this subject, that a gentle warning may not be out of place. Early planting is all very well, but just now in most districts the soil is not in good condition on account of the heavy rains, so that those who have work of this kind to do need not be anxious or impatient.—LAURENCE J. COOK.

Longevity of Charlock Seed.—I have quite recently had a plot of grassy ground trenched about twenty inches deep. On the surface of the soil young Charlock seedlings are now growing in great numbers. Of course, they will be destroyed before they attain a large size, but I am prepared to see thousands of seedlings during next year if I am alive. Not a single plant has grown in the grass surface for a long time, but in years gone by the Charlock plants had evidently been plentiful and seeded freely, the seeds remaining dormant in the meantime well below the surface. I have heard that seeds brought to the surface after very many years have germinated, but I have forgotten how long. Perhaps some readers of THE GARDEN may have had some experience in this matter and will state it in these pages.—G. G. [The point raised by our correspondent is an interesting one. We know of a field where, about thirty years ago, some of the old Strap-leaved Turnip was grown for seed. Although none of that variety has been allowed to seed there since and none has been sown, a few used to come up annually until five or six years ago, when we lost sight of the field.—ED.]

The Colour of Oxalis enneaphylla.—Will some of your readers or correspondents kindly shed some light on the colour of Oxalis enneaphylla? I have received plants from two sources, and in both cases the flowers are pure white, with a greenish tinge at the base of the petals. I wrote to the nursery where I got one plant, saying it was pure white, and that I understood the normal form had a purple stain at the base of each petal. The firm replied they never heard of Oxalis enneaphylla excepting all white. I turned up THE GARDEN for July 10, 1909, and at page 339, above the name T. Smith, I find a long description of the plant, and the flowers are described thus: "The flowers are white, with a deep purple stain at the base of each petal, and are carried on slender stems. . . . The illustration [a very fine photograph] represents a specimen that flowered this year (1909) in the garden of F. W. Bennett, Esq., Elmhurst, Louth, Lincolnshire. When at its best the clump carried over three dozen flowers." It would be interesting to know if Mr. Bennett's plant is unique.—WEST MEDINA. [The typical species is unmistakably, and to all intents and purposes pure white, though there is no reason to doubt that there are variations of the type. Occasionally, as the flower ages, a slight discoloration may be seen low down, but in no instance have we seen a variety with a deep purple stain at the base of the flower.—ED.]

Clematis cærulea on Warm Walls. — One occasionally sees a plant of this Clematis growing on open walls, but I have never seen one to surpass a specimen growing in a cottage garden in Hampshire and trained on the end wall of the house itself. I suppose the owner has not troubled to train the shoots closely to the wall in a formal manner; indeed, they seem to be supported by cross wires, and the general effect is most pleasing, as the branches, well laden with flowers, depend so gracefully from the wall. Loam, mortar rubble and leaf-soil suit these plants very well, and they form a distinct contrast to other climbing and wall plants in the same garden.—AVON.

Helianthus speciosus.—I see in your issue for October 18, page 528, that an award of merit was given to Helianthus speciosus (Tithonia), and you remark that it is probably easily raised from seeds. I have it now in my garden raised from seed sown last spring and obtained from Heinemann of Erfurt. It has not been flowering long, and should probably have been sown earlier. It makes a huge plant 8 feet high, and but for the uncommon and not very beautiful colour of its flowers would, in my opinion, be hardly worth growing. I should think it would be best on poor soil, when it might give more flowers and be less vigorous.—G. STAPLETON, *Rotherwick, Hants.*

Suitable Wood for Pergolas and Pillars.—May I add a word to the able article on this subject in the Special Rose Number of October 11? In addition to the woods mentioned, viz., Oak, Ash and Hazel, we have proven by a number of years' usage that Hornbeam and Larch, when well seasoned and their ground ends tarred, are well fitted to be used in pergola work or as single pillars. The Larch, moreover, can generally be obtained with small branches attaching to the trunk, which fact makes it infinitely more artistic-looking, whether used in a pergola or as a pillar. These projecting branchlets, which, of course, are retained at whatsoever length one wills, are most useful when tying up the growths, because they provide a larger and more irregular surface, thus giving the Roses a less bunched-up appearance.—C. T., *Highgate, N.*

Potting Dielytra spectabilis for Forcing.—In THE GARDEN for November 8 there appears on the "Gardening for Beginners" page instructions how to pot certain plants. Such a piece of Dielytra spectabilis as is there represented can be easily potted; but if the plants are purchased from dealers—and in nearly every case they are Dutch-grown—the beginner will find himself faced by quite a different problem. It will be found that in nearly all cases each plant possesses but a few long, fang-like roots that are so brittle as to at once snap if any attempt is made to bend them in order to get them into a pot of reasonable size. The novice is then completely at a loss, and puts this Dielytra either in too large a pot or does not bury it sufficiently deep, for the long, fleshy roots refuse to be bent. The first time I experienced this difficulty I scarcely knew how to proceed; but, taking the bull by the horns, I cut off as much of the thick, fleshy roots as prevented the clumps from being properly potted. The results were in every way satisfactory, and I have followed it ever since, being fully convinced that there is no need to put Dielytras in pots unduly large for fear of cutting away some of the roots.—H. P.

FORTHCOMING EVENTS.

November 24. — National Chrysanthemum Society's Floral Committee Meeting.

November 28.—Show at Hawick (two days).

GARDENING ACROSTICS.

WE have arranged for a series of acrostics during the coming months on the lines of those of last winter, but there will be two important differences, which it is hoped will commend themselves to our readers. First, the acrostics will not be so difficult; and, secondly, the marking will be, as we said in our issue of March 22, on different lines, which will be fairer and more encouraging to all. Instead of each acrostic counting one if the whole *and each* individual light was right and nothing if any one was wrong, in this second series each light correctly guessed will count one, and also each "first" and each "last." Thus, supposing the whole is China (firsts), Aster (lasts), the full marks will be seven—one for China, one for Aster, and one for each of the five lights C . . . A, H . . . S, I . . . T, N . . . E and A . . . R. Hence, suppose a competitor got everything right but the light I . . . T, he would count six, and it would not matter if he attempted to solve that particular light or not.

Our first acrostic will appear in our issue dated December 6, and we propose to have a series of eight, which will bring them to January 24. Those entering for the acrostics must observe the following conditions:

(1.) Solutions must be addressed to The Editor at 20, Tavistock Street, Covent Garden, W.C., and bear the word "Acrostic" on the left-hand top corner of the envelope.

(2.) If a *nom de plume* is used, competitors must at the same time enclose their own name and address, not, of course, for publication.

(3.) Solutions must reach the Editor within a week of the date of issue in which the acrostic appears. Thus, solutions of Acrostic No. 1 published in THE GARDEN dated December 6 must arrive at the office before or by the first post on December 13.

(4.) A list of those who have sent in solutions, with the number of marks that each one has obtained, will be published in the next issue. Thus, that of those who compete in Acrostic No. 1 will appear in the issue dated December 20.

(5.) We propose to divide the series of eight into two of four each, and to award two prizes at the end of the fourth, and two more at the end of the eighth and last. The first prize in each case will be two guineas, or books of that value, and the second, one guinea. In order to give as many as possible a chance of a prize, the winner or winners of the first prize in the first four will be penalised twelve points, and, similarly, the winner or winners of the second, eight points if they enter for the second four.

(6.) In case of any dispute, the Editor's decision must be accepted as final.

(7.) No solution can be accepted as correct unless it is the one that the framer of the acrostic has sent us as his solution, and which we shall publish in due course. It is impossible for it to be otherwise, as it would lead to much confusion, and it would place upon us a responsibility which we could not assume.

(8.) In the event of two or more competitors obtaining an equal number of marks for first prize, the first and second prizes will be added together and divided among them.

Solutions, with explanatory notes, will be published as they were last season, only this time we will endeavour to give the list of the competitors for any one acrostic and its correct solution in the same issue.

A GOOD TREE FOR THE PLEASURE GROUNDS.

(SOPHORA JAPONICA.)

FEW deciduous trees are more attractive in habit and foliage than this Chinese leguminous tree. Though formerly, as the name Sophora japonica suggests, considered to be also a native of Japan, it has since been fairly conclusively proved that the Japanese trees, though very numerous, are all cultivated specimens. The year 1763 is given as the probable date of the introduction of the tree to Britain. It is readily recognised by its dark shining green, pinnate leaves, which retain their colour and hang on the trees long after most deciduous kinds have shed their foliage. As a rule, the tree branches at no great height from the ground and forms a large, spreading specimen rather than a tree of great height, though there is a tree at Kew, not far from the Chinese Pagoda, 70 feet high, with a clean trunk for a considerable height from the ground. This Sophora is the last of the large trees to flower in the pleasure grounds, being at its best in September. The large branched terminal panicles are composed of numbers of small, Pea-like, creamy white flowers. Flowering so late in the season, the trees seldom mature fruits. A. O.

ROCK AND WATER GARDEN.

THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

(*Continued from page 572.*)

THE first site I will consider is one to which I was called some little time ago, and I may add that the particulars I give here contain essentially the advice given to the client, with a certain elaboration of detail for illustrative purposes. The sketch plan A shows the existing conditions. To those not acquainted with the method of showing existing levels, I must explain that the surface of water in the existing pond is taken as 10 feet above an imaginary datum, and that subtracting ten from any other level given on the plan leaves as a result the height of that particular spot above the surface of the water. This site happens to be illustrative of what I should consider almost ideal conditions for a certain type of rock garden. In the first place, all the straight lines that surround it are in such a position that they can be completely obliterated by judicious plantings; then, it is so situated as to be approached through the more formal portions of the garden, and thence by walks that at every step get further from formality and nearer to Nature, until, at the bottom of the stretch of sloping, or, rather, undulating ground, one arrives at a more abrupt slope still, with a small, natural pond in the hollow at its base. The inclination of the slope is from north to south, with a slight fall across from east to west. The object is to obtain the best possible

SKETCH A, PLAN SHOWING SITE BEFORE TREATMENT.

effect in the least possible area, and to create suitable positions for some alpines, but more marsh plants and aquatics. The water supply is a natural one, coming from a higher level, and in case this should in abnormally dry seasons fail, an artificial supply is laid on. It will be seen from the plan that the banks slope steeply towards the water-level, the pond lying in a sort of valley. Now the first question to ask ourselves is, "Assuming that rock were already in existence here, in what formation would it be found?" The valley itself is to all appearance a "wash-out"; the contour of the banks gives the impression of their being gradually worn away by successive torrents of water passing that way during abnormally wet seasons. Had there been underlying rock here, and a fault in the stratification occurred, what is more natural to suppose than that in the course of time the mass had become disintegrated by the action of the water, and particles washed away, leaving the more or less jagged edges exposed at some points, while at others the subsidence of the soil from above had created long sloping banks. Here, then, is the formation that Nature, given one more elementary condition, would have produced in this position—long sloping banks, broken with rock outcrop, the lines of which show not only more or less stratification, but also the wearing action of the water has scarified and worn distinct crannies and crevices. Certain portions of the disintegrated masses have fallen at irregular intervals from the main outcrop and lie helter-skelter at various points along the banks and in the water. Some of these become half buried as the upper soil crumbles down between them, or as weeds germinate, grow, die and decay among them, thus filling the interstices and forming rich beds for future generations of the vegetable world to thrive in.

There is, I know, a school of rockery constructors who adhere rigidly to lines of stratification, and are inclined to ignore the *accidents* of Nature, with the result that their productions sometimes become a series of more or less pronounced lines that fail to adequately resemble the work of Nature, inasmuch that they look too trim and tidy—too deliberately "arranged." Nature is rather a slut in her work; she delights to drop untidy masses of all sorts of things about, and then redeems her character by covering them up picturesquely; and it is by taking full cognisance of the careless distribution she makes of her rocks, when she separates them from the main mass, that the really successful rock garden is brought into being.

Here, then, is the ideal she sets before us; now to proceed to develop it. An artist about to paint a picture prepares a few studies in proportion to the work contemplated; an architect prepares plans and designs to scale and tests the effects of his aspirations on paper; and the successful rock garden is the one that is carefully thought out and planned previous to its commencement, although it is quite impossible to accurately forecast all the details of the effects to be obtained.

C.—TRANSVERSE SECTION ACROSS PLAN B.

In the sketch plan B will be seen my suggestion for dealing with the site. C is a transverse section through the same. By comparing these with the plan A it will be seen that the pond is to be somewhat enlarged. Advantage is to be taken of the difference in levels of some 8 feet or 9 feet between the water supply and the level of the water in the pond, to create two smaller rocky pools at different levels in the hillside, the water finding its way to the pond through water-worn crevices in the stone, forming in effect miniature cascades (see Section A B). The general lines upon which the stone is to be arranged are shown in the plan, also the position and direction of the paths. In fixing the positions for the various masses, their relation to every other mass must be carefully considered, and sufficient provision must be made for planting positions. The results of the ultimate development of this design are seen in two photographs taken after the stone was placed, but before planting. It must, however, be borne in mind that the use of the plan is rather to get a general idea of the scheme fixed in our mind, as the shape of the stone used will, to a very great extent, modify any preconceived notions when it comes to the actual placing of the stone.

Colchester. GEORGE DILLISTONE.

(*To be continued.*)

ILLUSTRATION SHOWING ULTIMATE DEVELOPMENT OF SITE SHOWN IN SKETCHES A AND B.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

NOTES ON SOME NEWER ROSES.

HYBRID TEAS FOR EXHIBITION.

(*Continued from page 574.*)

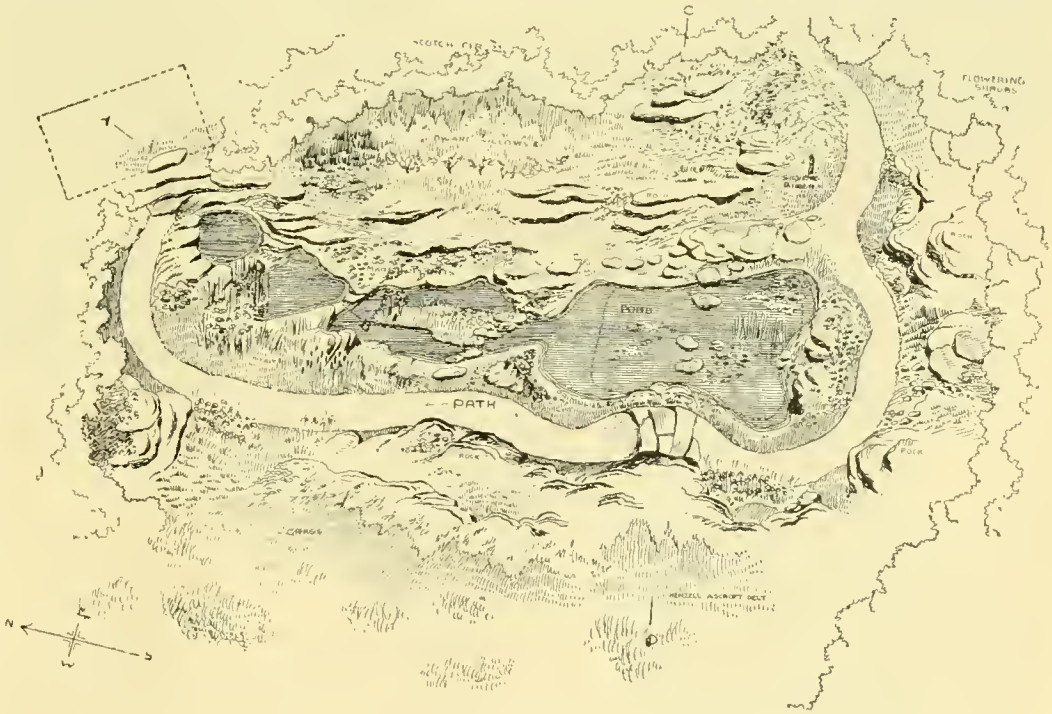
Mrs. F. W. Vanderbilt (S. McGredy and Son, 1913).—A very beautiful Rose this, the finest product of all the crosses that have been made with Lyon Rose. It is a more vigorous grower than the majority of the Roses that have this blood in their veins, and, fortunately, too, does not seem to have the habit of "dying on ye," as the Irish say, that so far all the pernetiana Roses have got very badly. I am hoping that as they get further away from the original parent, so will this very bad fault be eradicated. I am very much afraid for this reason, if for no other, that Rayon d'Or will never make a satisfactory bed or ever be much good as a cut-back. Mrs. F. W. Vanderbilt is a gold medal Rose, and although not a very big flower, is a very beautiful one, both in colour and shape—pale orange, shaded deep apricot, almost copper colour, very free-flowering, and will make a magnificent splash of colour in a bed of a kind that is not common in our gardens. Asked if it is any good for exhibition, I should say sometimes, if you are lucky, you will get an early flower big enough. The shape is there, but it is on the small side for the exhibition box. Fragrant.

ANOTHER ILLUSTRATION TAKEN AFTER THE ROCKWORK WAS COMPLETED.

ARRANGEMENT OF POOLS AND SMALL CASCADES AT NORTHERN END OF PLAN B.

Mrs. Forde (Alexander Dickson and Sons, 1913).—This is the only Rose out of the six new varieties that Messrs. A. Dickson and Sons are sending out this year that they call an exhibitor's Rose—the other five are labelled decorative—and a very fine exhibition Rose Mrs. Forde will make. Beautiful spiral shape, of good size and substance. The colour is delicate pink flushed rose, a delightful combination. The petals are almost circular, and have the usual yellow base that one connects with Tea blood. Distinctly fragrant, with a scent all its own, of a fruity kind that the raisers call tangerine; but I cannot say that I should quite call it that. Altogether a beautiful Rose that will be welcome in our gardens. I see I marked it as one of the best of the new seedlings that I saw at Newtownards last year. It is a good strong grower, and I shall look forward to flowering it next year with a good deal of pleasure.

Mrs. J. H. Welch (S. McGredy and Son, 1911).—This is one of the curiosities among Roses. It is a veritable balloon, for though it is, as shown, of the orthodox shape, and if one did not know one would expect plenty of petals, as a matter of fact there are frequently not more than three or four rows. I had a really magnificent flower of great size and apparent substance that stood for days on the plant, and I out of curiosity subsequently counted the petals, to find fifteen only. A normal Rose would have at least sixty, Bessie Brown 120 or more. Its petals, if few in number, are the largest of any Rose that I have come across. It keeps its shape in a truly wonderful fashion, and can be strongly recommended to the exhibitor. This has been the third season I have grown it, and it stood almost as well in the hot season of



SKETCH B.—PLAN OF ROCK AND WATER GARDEN FOR SITE SHOWN IN PLAN A.

1911 as it has done these last two years. It occasionally comes a particularly brilliant colour, as striking as anything I know in pinks, but its normal colour is quite good. It is a tall and whippy, but not particularly vigorous grower. The buds have a very large calyx; unusually so. It has been well shown by the trade and amateurs alike throughout the season, and has come to stay, notwithstanding its peculiarities. It is slightly fragrant, and even when fully open with flowers as large as saucers it is beautiful. It figured in Mr. Mawley's selected twenty, and I see occupies quite a high place, as I should have expected, in his Analysis of exhibition Roses. It is a gold medal Rose.

Mrs. Muir MacKean (S. McGredy and Son, 1912).—This Rose can be best described as an improved Mrs. A. E. Coxhead. The colour is deeper and more of a crimson carmine. It is also a good shape, the petals perhaps not quite so large as Mrs. A. E. Coxhead, but very free-flowering and deliciously fragrant. A good grower and not subject to mildew, very reliable and always in flower.

Mrs. Sam Ross (Hugh Dickson, Limited, 1912).—A beautiful Rose this, useful for both purposes, a light yellow, shading to a deeper colour, with a flush of buff on the outside of the petals. It has not yet had time to get known, but it will be wanted when it is. A refined Rose, very free-flowering, a good grower and sweetly fragrant. I think it is the best of this firm's 1912 set. Gold medal at the Royal Botanic Show, 1911.

Mrs. R. D. M'Clure (Hugh Dickson, 1913).—This is a beautiful-shaped variety of a clear salmon pink self; good pointed flowers. A fine, strong, vigorous grower, free-flowering, that holds its flowers well erect. I was very much taken with it at the Belfast Show last year, where it received the gold medal, and my impressions were subsequently more than confirmed when I saw it growing in the nurseries. I think it will quickly take a prominent place, as the flowers seemed so uniformly good.

Mrs. Wallace H. Rowe (S. McGredy and Son, 1912).—A Hybrid Perpetual like growth, but a very fine flower severely handicapped by its colour description. In all catalogues it is called Sweet Pea mauve—enough to prevent anyone buying it. It is really a good carmine pink, quite a pleasant shade. It is robust rather than vigorous. The flowers are of good substance and finish, and invariably come a good shape; the colour lasts and does not fade.

St. Helena (B. R. Cant and Sons, 1912).—This Rose has been frequently exhibited during the season, but I cannot say much about it from my own experience, as something went wrong with my plants. It is a beautiful shape, with a good spiral centre reminiscent of Joseph Hill, both in colour and form. Of the twenty new Roses it found its way into the first half-dozen as a result of the combined voting of the trade and amateurs, so there is not much fault to find with it. The raisers have been able to show it consistently throughout the season. It was awarded the gold medal of the National Rose Society at the Southampton 1912 Show.

This concludes my notes on the Hybrid Teas that might be useful to exhibitors. Next week I will deal with the Teas for exhibition, and then start on the decorative or garden Roses, which are a popular class.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

[We take this opportunity of thanking the many readers who have sent us letters of appreciation respecting Mr. Molyneux's notes. Some of these have come from Hong-Kong, New Zealand, and other distant countries, where Rose cultivation is evidently making great progress.—ED.]

AN EFFECTIVE GROUPING OF PERENNIAL CANDYTUFT, THRIFT AND SAXIFRAGES IN A LONDON GARDEN.

COLOURED PLATE.

PLATE 1481.

THREE GOOD GARDEN ROSES.

WE are frequently asked to name Roses that can be relied upon to give a good display over a long period, and which are, in other respects, well adapted for massing and thus creating good effects in the garden. Fortunately, there is now a good host to select from, and the three shown in the coloured plate presented with this issue ought to be grown wherever good Roses are appreciated. All are of comparatively recent introduction, and all can be obtained from any good Rose nurseryman at nominal prices. If we had to select the best of the three, our choice would be:

Arthur R. Goodwin. This is purely a garden Rose, and of no use for exhibition except in those classes specially provided for Roses of this kind. It makes a very compact and neat bush, never mildews, flowers from June until well into October, and the blooms present several different phases of colouring. The half-opened buds are very charming indeed, the colour at that stage being a sort of vivid coppery orange, with a suspicion of scarlet on the outside. Two other stages of development and colouring are well portrayed in the coloured plate. Unlike most other Roses, the petals hang on a long time after the flowers are full blown, a feature that is desirable in a garden Rose, as the display is thereby prolonged. Arthur R. Goodwin was put into commerce in 1910 by M. Pernet-Ducher, and is classed as an Austrian Hybrid. The next in order of merit is

Lady Alice Stanley. This Hybrid Tea really ought to be bracketed with Arthur R. Goodwin if it behaves as well with everyone as it has done with us. It resembles Mrs. Wakefield Christie-Miller in colour, but the flowers are of much better shape, and some that we have had this year have been quite up to exhibition standard. The bush is vigorous, yet neat, and the large leaves of leathery texture, so that they withstand mildew effectively. The blooms are borne on stout, erect stems, and the depth of colouring to be seen in them as they unfold is marvellous. On the 8th inst. we cut two beautiful flowers of this from one bush, and we owe a great debt of gratitude to Messrs. McGredy and Sons for sending it out in 1909.

George C. Waud we approach with some diffidence. It is decidedly below the two others as a garden Rose, yet it must be grown for its colouring, which is quite unlike that of any other variety. The official description of it is rose suffused orange and scarlet, but that scarcely conveys to the mind the vivid, fire-like intensity that one sees in the garden. But, alas! it is not mildew-proof, although not nearly so badly addicted to it as some varieties. Then, the flowers often come with rather badly-shaped centres. But it is vigorous, free and sweetly scented. It was sent out in 1908 by Messrs. Alex. Dickson and Sons, and is classed as a Hybrid Tea. We are indebted to Messrs. H. Merryweather and Sons of Southwell, Notts, for the flowers from which the coloured plate was prepared.

THREE GOOD GARDEN ROSES—

Yellow: Arthur R. Goodwin.
Pink: Lady Alice Stanley
Red: George C. Waud.

Hudson & Kearns, Ltd., Printers, London, S.E

THE FLOWER GARDEN.

DAFFODIL NOTES.

New Zealand Jottings.—I was interested to read the cutting of the Auckland 1913 Show, sent by Mr. Chapman, in THE GARDEN of November 1. I can supplement that by an extract from the *Lyttelton Times* of the Canterbury Show, where, too, a large number of seedlings were shown: "Special interest at this show centres in the seedling exhibits, and these were on this occasion represented by a very fine array of blooms. Four of these, shown by the Hon. R. H. Rhodes (Tai Tapu), were awarded the society's certificate. They comprised Sea Swallow, a sport from Seagull; Otahuna, a large cream-coloured trumpet with a white perianth; Mararoa, a white-perianthed incomparabilis; and Minaret, a pale canary-coloured trumpet with a white perianth. All these blooms were of large size and great beauty, and some were considered superior to the best English seedlings of the kind of which there is record. . . . . Mr. Biggs showed a quaint novelty in the form of an extremely attenuated and slender yellow bloom, a seedling from cyclamineus and a trumpet."

It is pleasant to know that our New Zealand brethren are just as busy as we are with seedling-raising, and that their money has not been spent in vain, for many are the golden sovereigns that they have sent to the Old Country for "good things," and it would be discouraging to a degree if there were no results to reward their courage and their pains. I do not, however, think it is *Sic transit* "everything here" just yet.

Sporting in Daffodils.—Up to now authentic cases of permanent sporting have been very few. Barbara Holmes is said to have come from Barri conspicuus. This and a sport of my own from Seagull are the only ones I can recall at the moment. The appearance of Sea Swallow is most interesting. It at once suggests the thoughts: "Has the time of life come when Seagull will give sports?" and "Will other varieties have this tendency?" I imagine that such things are possible. For a good many years I held the entire stock of China Ware, which I bought from the late Mr. Haydon. Every spring I have invariably found several flowers in which there was a considerable amount of a deeper yellow than the normal pale citrony shade. Latterly I have used such flowers in "crossing," in the hope that their unstable tendency may produce something novel in their offspring. I have never noticed any other variety so sportive. Are there others, and are any of them permanent?

New Zealand Shows.—From a private letter I am able to compile an approximate list. It may surprise some readers to know that there are at least four centres in the two islands where special shows are held this season—Auckland, end of August; Christchurch, September 12 and 13, and a second on September 24 and 25; North Otago, September 25; and Dunedin, October 1 and 2. There may be more; if so, I hope some New Zealander will kindly supply the omission.

Narcissus Beethoven.—Some readers may remember that I once sang the praises of a Van der Schoot variety called Astra. I feel I owe everyone an apology for doing so. It is a lovely, uncommon shade of pale yellow, and for several years did splendidly. But in the very next season after my remarks appeared "something happened," and now I would be glad to take sixpence a hundred for all I have. Once bitten, twice shy. I have waited patiently before I "passed my opinion" on another of Messrs. Van der Schoot's bantlings—Beethoven. I am making no mistake in writing this down as a first-class variety, and I have chosen this particular time to do so because I see, in THE GARDEN for November 1, a good illustration of it in Bees' advertisement, and, as they say so truly, "lest you [that is, I] forget." It is a most attractive garden plant, and it is "not so dusty" in pots under glass. It has these qualities to recommend it: (1) Colour—a sunshiny yellow, almost exactly the shade of the lovely Autocrat; (2) earliness—a *real good doer* to come in early is wanted; (3) floriferousness—it is "very free"; (4) constitution—most robust; (5) rapid increaser; (6) good in pots; (7) distinct shape—the curious, roughly jagged trumpet is striking. Points against it: None that I know of, except it be length of stem, which might be a bit longer from a cut flower point of view; or its shape, which I think pleasing and graceful when I am an ordinary mortal and not one of the modern "curious"—a judge at a show. I recently took part in the letter-writing in a very lengthy discussion *re* the judgment of the *chefs* at the Royal Horticultural Society's Vegetable Show. I said a vegetable for show is one thing and a vegetable for use is another. (If a *good* cook does not know what he wants for cooking, why should a gardener?) So with Daffodils. "Show" and "garden" varieties may be the same, but more often, perhaps, they are not. It is the garden award that I pin on Beethoven's breast. Having just said all this, may I here be allowed to say I read the two articles by "Somerset" with great interest? My reply is simmering.

JOSEPH JACOB.

P.S.—Since writing the foregoing I have been told by a grower of cut flowers for market, who had some of my Beethoven in his garden last spring, that he found it to be a great favourite and that it commanded a ready sale.—J. J.

A NOVEMBER FLOWER (KNIPHOFIA MULTIFLORA). THIS HANDSOME SPECIES IS WORTHY OF A SHELTERED NOOK IN SOUTHERN GARDENS.

TWO WHITE KNIPHOFIAS.

I HAVE for many years rather prided myself on the possession of a sort of second sight that comes to my aid when I am asked to name a plant from an imperfect description. Of course, when I am questioned as to a puzzling tree, I ask, "Can it be a Hornbeam?" and in ninety-nine cases out of a hundred it is; but I mean more than that, and the puzzling plant that has roots—well, just ordinary roots—in the ground, you know, and a stem growing straight up and green leaves of some forgotten shape and a pink flower at the top of the stem, don't you know, &c., is often revealed to me by a process that I claim no credit for, as it must be more intuitive than deductive. But a few questions like those one uses in playing the good old game of "clumps": "Are its leaves simple like a Violet's?" "No." "Then perhaps finely cut like Fennel?" "Yes." "Is it a Cosmos?" "Ah, yes, I remember now that s what Mrs. Brown called it." And there we are;

but I felt at the beginning it was a Cosmos, and goodness alone knows how or why. There are two Kniphofias, though, that, unless I had just seen one of them, would, I feel almost certain, never come into my head even if fairly well described. One's idea of a Kniphofia is that it should be a Red Hot Poker, and a white heat is not expected of it. Yet there are two, not often-seen species, in which the flowers are unusually small and white or slightly greenish, and are produced on spikes unusually long and slender in build for this genus. K. modesta was discovered by Mr. Tyson in Griqualand East in 1884, 6,000 feet above sea-level, and later by Mr. Medley Wood in Natal, whence plants were sent to Kew. It is a charming and dainty plant, but, unfortunately, none too robust, and in spite of my care I could not make it happy here in the open air, and it died after a short illness.

The other, K. multiflora, is a much more robust plant, also from Natal, and makes a fine specimen plant in favoured climates, such as those of Cornwall and Southern Ireland. Its long, channelled leaves are of a pleasingly rich green, and have an air of distinction that produces a sub-tropical effect. The flower-spikes are narrow, but densely furnished for a great length with the small, tubular, greenish white flowers, and have something of the general appearance of some species of Eremurus. Unfortunately, they seldom attempt to open before late October or even November, and so in all but the warmest gardens of our islands they are in most seasons so severely snubbed by Jack Frost that they fail to get over his cruelty. This season has been wonderfully favourable to such late-flowering plants, and a bed of this Kniphofia in front of the Orchid Houses at Kew has flowered splendidly, producing over sixty spikes. Some good specimens were exhibited at the last meeting of the Royal Horticultural Society also. It is a plant quite worthy of a sheltered nook and a little protection, such as a mat will afford, on nights when frost threatens in mid-October; and then in some seasons it will make a fine display just when most of the outdoor plants have ceased flowering, and is perhaps all the more welcome on this account.

Waltham Cross. E. A. BOWLES.

SWEET PEAS: SOME REFLECTIONS AND HINTS.

THE season now closing has not been kind to the Sweet Pea. From the time of planting right through its growing period it has had to withstand the most inclement weather. A period of cold, damp days immediately followed planting out, and little or no growth was possible; then in May came a sudden spell of almost semi-tropical sun-heat, with drying winds and cold nights, and later on, when the sun would have been beneficial, it kept itself hidden in a sky of hodden grey. Could anything be happy under such conditions? Yet if a brief on behalf of the culture of the Sweet Pea were needed, the very inclemency of the weather would support it, for at all the prominent shows some wonderful exhibits of Sweet Peas were staged, showing that, despite the prevailing uncongenial conditions, the Sweet Pea had flourished, amply repaying the grower for the labour bestowed on it with its wealth of fragrant flowers. A survey of the season reveals an increasing interest by the public in this lovely flower. At the principal London and provincial shows the biggest crowds were generally round the Sweet Pea exhibits, and although no startlingly striking novelty has attracted attention, yet among this year's novelties are several of sterling worth which will replace some of the older varieties, as they supersede them both in size and colour. A pleasing and gratifying fact frequently noticed was that Countess Spencer, Constance Oliver, Dorothy Eckford, Etta Dyke, John Ingman, Mrs. Hugh Dickson, Tom Bolton and several other old friends still hold a prominent position among the exhibits, showing that they retain the admiration they immediately gained on their introduction several years ago, and are fulfilling all that was predicted of them.

KIPNHOFIA MODESTA, A DAINTY SPECIES WITH SMALL WHITE FLOWERS.

The most disquieting fact recorded this summer, and one which is more fatal to the progress of Sweet Pea culture than either streak, mildew, or any other disease, is the awful "mixture" which resulted from growing seed sent out by some seedsmen. Deplorable examples of impure seed were seen again and again, and this flooding of the market with unreliable seed is more venomous than any fungi attack and more invidious. "Sporting" will always occur more or less, and some varieties are very prone to it; but the majority of our leading firms have the welfare of the Sweet Pea at heart, and pay the most scrupulous care in "rogueing" that their stocks can be thoroughly relied upon, and it is false economy to buy seed from other than the best raisers. Of course, one has heard the inevitable complaints of disease (streak, leaf spot and mildew), and some sorry wrecks have been seen. However, the conclusion arrived at is that the cause of the majority of failures is ignorance—culpable ignorance, one might say, in many instances. One grower complained of all the buds dropping, and why? A glance upon the surface of the soil revealed sufficient chemical for a row fifty times the length, and an extraordinary amount of manure also had been trenched into the ground previously to planting. Numerous complaints of leaves turning yellow and plants refusing to grow have resulted, in most cases, upon examination to be the result of "digging a grave" for the Sweet Peas. A veritable reservoir of putrid mud and manure was what the Sweet Peas were expected to delight in. The word "trenching" has many deaths laid at its door. Several not failing in cultural detail were sadly disappointed, and one in particular had given his Sweet Peas almost perfect culture, and yet not a bloom was the colour he saw at the National Sweet Pea Society's show. How could that be? I give his list of excellent varieties: Thomas Stevenson, Afterglow, Lady Miller, Charles Foster, Flora Norton Spencer and Barbara. "Protection from the elements" was suggested, and although much surprised, he followed the advice and in a few days beheld blossoms equal to those which had captivated him at the show. Thus it is that through ignorance of cultural details, or of the habit and nature of the variety selected, many have met with disappointment and have been deprived of the joy and beauty which is peculiar to the Sweet Pea alone.

Much has been written about the Sweet Pea, but many people do not yet know its ease of cultivation and are often oblivious to its history. The purpose of this and future articles is to place a simple, concise statement of fact before the reader, dealing with every phase of Sweet Pea life, and, if possible, to remove the ignorance which is the cause of most of the failures so often attributed to either the seedsman or the Sweet Pea. A word of warning must be added against a too literal adhesion to the hints set forth in any one paper. It is impossible to generalise for the whole country; but the suggestions made will be such that, with the combination of common sense and knowledge of the particular district concerned, will prove to give the desired successful Sweet Peas. The first consideration, as it is autumn, is the stock. As has already been mentioned, certain growers have either wittingly or unwittingly sent out unfixed and untrue stocks, and such seed has been, and is, a source of much vexation. Every grower of Sweet Peas should therefore procure his seed from a reputable firm, and preferably from one recognised as a raiser of first-class varieties. The advertisement columns of THE GARDEN will provide the names of several leading firms who grow their seed under their own supervision, scrupulously rogueing it, thereby guaranteeing it true to name and of excellent quality. Having obtained a catalogue, buy the seed as early as possible in the autumn, and so be assured of getting the varieties you require.

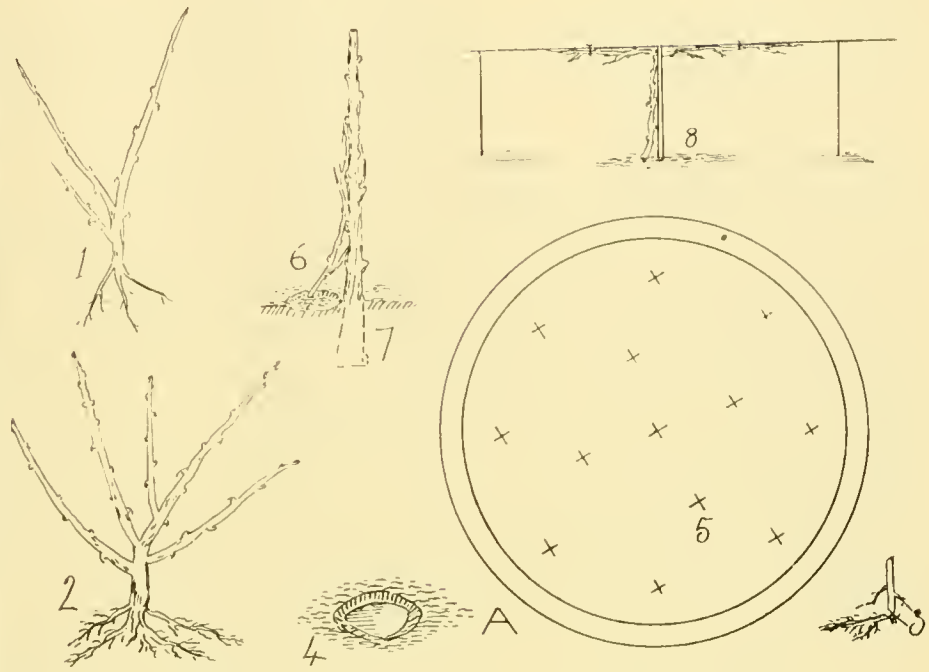
Selection of Varieties.—The selection of suitable varieties is by no means the task of a novice, but requires well-considered discernment between the many names that meet the eye in every list. As the subject is so important, it will receive full treatment in a future article, together with criticisms of some of the novelties offered this autumn and a list of the best. S. M. C.

GARDENING FOR BEGINNERS.

HOW TO PLANT ROSES.

THE increasing love of Roses every year leads amateur cultivators and others to plant the trees in great numbers each autumn, and, indeed, as late as March in the following spring. Unless unavoidable, late planting should not be the rule. It may, and does, result in retarding the new growths in the spring, and thus they escape injury by late frosts; but the plants sometimes suffer afterwards when long spells of dry weather come. Autumn planting is best. Before any Rose trees are put in, the different positions for them should be selected, so as to plant those varieties in each section that will answer the purpose best, as Roses are valuable plants for pergolas, arches, arbours, pillars, walls and trellises, as well as for lawn and other beds.

The Soil.—This, the rooting medium, is a very important item in connection with Rose-growing. It varies considerably in different parts of the country, and where poor or gravelly must be improved. A good friable loam of a retentive nature is the best, and, where such obtains, very little need be done to it beyond breaking it up to a depth of at least 18 inches. The top portion must be kept there, the bottom being broken up, but retained below. Poor soils must be treated in the same way, and, when possible, some soil of a heavier nature added. The actual manuring of the ground should not be done before growth is free early in May.

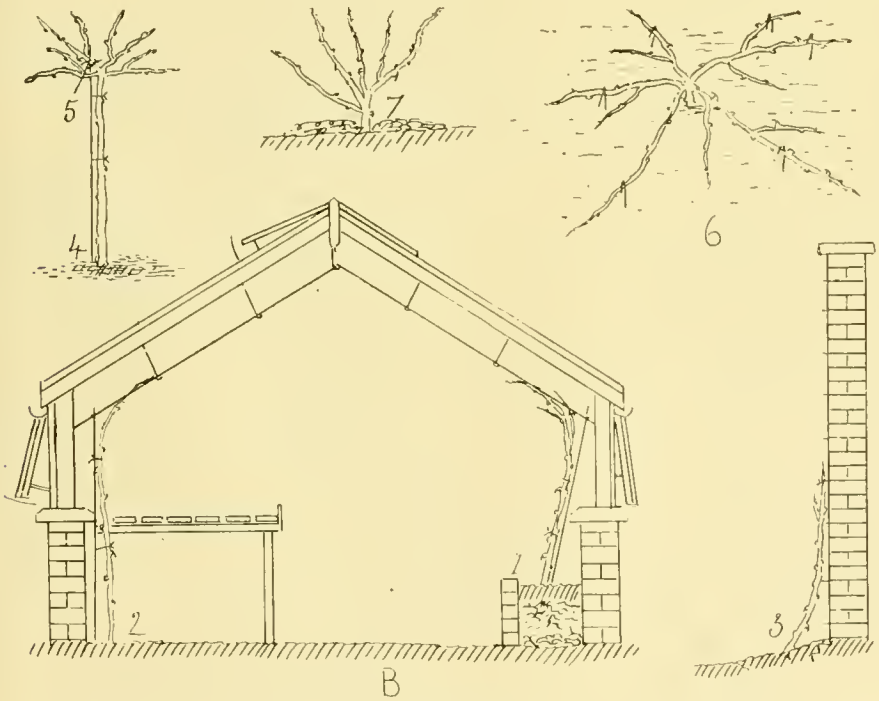


HOW TO PLANT ROSES IN THE OPEN GARDEN.

Grassy Ground.—In new gardens and where fresh land is dealt with, it often means that the cultivator must deal with grassy ground. Now, such land needs special attention, and if well treated the Roses will do remarkably well in it. There is no opportunity to trench the ground, but it may be treated in an almost like manner, the Roses being planted at the same time. The ground must be deeply dug and the subsoil well broken. The positions for the Roses should be marked as the work proceeds, taking care to chop up and bury the grass portion a little deeper than between the positions marked for the plants.

How to Plant the Roses.—When received from the nursery, if the weather is open, unpack the bundles at once and soak the roots in water, and then get the Roses planted as soon as possible. In Fig. A, No. 1 shows a medium strong Tea Rose, and No. 2 a strong Hybrid Perpetual. All badly-damaged roots, as shown at No. 3, must be cut off. Make holes—before the trees are received—as shown at No. 4, having them large enough to accommodate the roots without undue cramping. The crosses in No. 5 show how to dispose the Roses. An edging of London Pride or Cerastium tomentosum is very effective. No. 6 shows how to plant a Rose so that its roots will be clear of the post, No. 7. Roses near garden paths may be planted and trained on wires as shown at No. 8. Painted iron rods should support the wires, every third bar being a little stronger than the others.

How to Plant Roses Under Glass.—The principle of planting Roses in brick pits under the stages, as shown at No. 1, Fig. B, is much better than planting them in the sour soil beneath, as shown at No. 2. The plants in pits are stronger. When planting against outside walls, the Roses should be so put in that their roots are quite clear of the foundation portion of the wall, as denoted in No. 3. Plant standards in just the same way as dwarfs, but keep the stake clear of the stem, as shown at No. 4, and have the stake long enough to allow of the head being secured to it, as shown at No. 5. Roses planted for pegging-down purposes must be in well-prepared ground, as it will prove difficult to attend to their roots afterwards. Peg down the shoots as shown at No. 6, placing the branches as evenly apart as possible. No. 7 shows how the surface mulch must be laid on to protect the roots and not unduly bury the stem. G. G.



METHODS OF PLANTING ROSES UNDER GLASS, AND FOR PEGGING DOWN OUTDOORS.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Lawns.—To keep these in really good condition they should be periodically weeded, and at no season do the weeds come out easier than at present. Though there are several weed eradicators to be had, I have not yet found one to beat the old two-pronged Daisy grubber.

The Rose Garden.

Where the Rose garden is in close proximity to large trees, considerable difficulty will be found in keeping the roots of the latter from robbing the Roses, and it is astonishing how quickly the good soil of the Rose-beds gets monopolised by the tree roots unless precautions are observed. In some instances I have seen galvanised iron put round the beds on the side from which the roots come; but, in addition to being expensive, the roots soon find their way either under or over this. The best plan, I think, is to take out a narrow trench around the tree or trees at a distance that is not likely to permanently injure them, cutting all the roots and filling in again; and if this happens to be a few feet from the Rose-beds, it should prove effective for at least two or three years.

Rose Planting must be pushed forward as much as possible. The late growth of the Roses has prevented them being lifted very early; but if the long growths are shortened back when the plants are lifted, and not allowed to remain out of the ground too long, the plants should be in a better condition to stand the winter than those not shifted. I have frequently noticed that replanted Roses have suffered much less from frost than others not so treated.

Plants Under Glass.

Sweet Peas for flowering under glass should be making a nice sturdy growth, and though it is not imperative that they should be removed from the cold frame, a stage or shelf in a quite cool house will suit their requirements well. If the plants are in quite small pots, give a shift on as soon as the roots appear to require it; if in single pots, 4½-inch will be large enough; if several plants in a 4½-inch pot, then a 6-inch or 8½-inch should serve them till they are placed in their flowering pots early in the year.

Poinsettias that may have been used for the conservatory or been used for the decoration of the house should be placed in a cool house and gradually dried off. Late batches must be carefully treated to keep the bracts in good condition, careful watering and a moderately dry atmosphere being quite essential now they have attained full size.

Euphorbia jacquiniæflora should still be growing, and a little weak liquid manure may be employed to help them to push their flower-buds. As this flower lasts well, it is advisable to keep it in reserve, as good, bright subjects are not so plentiful after Christmas as they are at present.

Zonal Pelargoniums.—These are now making a brave show, or should be, and to preserve the flowers in good condition a dry atmosphere must be maintained, with plenty of air during the day. Fog is perhaps the worst enemy of Zonal Pelargoniums during the winter, so during foggy weather the ventilators must be kept practically closed, or the whole of the opened petals will drop. Young plants rooted in the autumn and intended for an early summer display must be kept growing steadily in a moderately warm house or frame near the glass, stopping the young plants when a few inches high to induce a bushy habit of growth.

The Vegetable Garden.

Broad Beans sown early in the month will, owing to the unusually mild weather, be quickly through the ground, and it may be advisable to pull a little soil over the young plants if sharp frosts are expected. If the soil is in a good, workable condition, it might be wise to make another sowing, as the frost is much more likely to injure large than small plants during the months of January and February.

Peas should be sooted as they come through the soil, to prevent the ravages of slugs. Also it is advisable to place black cotton over the rows or cover them with Pea protectors to keep off the birds.

Celery.—In the event of severe frost, a covering of dry straw should be given to the rows to protect the hearts, removing it as soon as the spell of frost is over. On heavy land it is sometimes advisable to place ridge-shaped boards over the rows to keep the water off; but it is only necessary where the soil is of such a nature as to rot the hearts during wet weather.

Fruits Under Glass.

Early Vineries.—In most establishments where there are two or more vineries, the end of November or early December is a very suitable time for starting the early house. The first few days after closing the house the temperature should not be raised too high, even by sun-heat, and no artificial heat should be required. If the weather is fine, a light spraying over the floor, walls and rods during the early part of the day should ensure sufficient moisture in the atmosphere of the house, which may be slightly increased where fire-heat is employed.

Early Peach-House.—The same remarks apply here, and an even more strictly moderate temperature must be employed at the commencement. Early Peach trees have a tendency to drop their buds; hence the necessity of a very gradual rise of the sap. If very light syringings are employed and the roots are in a nice moderately moist condition, the chances are they will come away well; but no attempt at hurrying the trees must be made till the fruits are set.

Pot Vines and Peaches should also be started, observing the same cultural conditions, but it will be noted that these will come away quicker than the trees and Vines established in the borders, as the pots will get warmed through very quickly. Watering must be carefully done, and though the plants do not require much water at this season, they must on no account be allowed to get dry.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Trenching.—The past summer has supplied an object-lesson as to the advantages of deep cultivation. It is to be commended for almost every class of plants; but for such subjects as Sweet Peas, Dahlias, Hollyhocks and other gross feeders it is imperative if good results are to be obtained. Bastard-trenching, or double digging as it is sometimes called, is preferable to trenching proper. By the former method the top and bottom spits are left in their respective positions; whereas by the latter method the cold, inert soil is brought to the surface.

Protecting Christmas Roses.—These will be improved in quality by having the protection of a frame with abundance of air. Should severe frost occur, however, the lights should be closed, and a mat be thrown over each light, or the blooms will suffer to some extent.

Cleaning Gladioli.—If the stock was placed in boxes among sand or light soil and stored in a shed, the foliage will have ripened by now. The plants should be gone over on a wet day, the foliage removed, and the corms cleaned and stored away in a cool, dry place until wanted in spring.

The Rose Garden.

Supports for Climbers. — Attention should be given to the condition of the various kinds of supports to which climbers are trained—trellises, poles, arches, pergolas, &c.—and where any repairs are necessary, they should be carried through during the dormant season. The painting of any of those subjects requiring it should also have attention if the weather is favourable.

The Shrubbery.

Pruning Deciduous Shrubs.—With a few exceptions this work should be proceeded with when frost is absent. Exceptions are Forsythias and varieties of Pyrus japonica, which should both be pruned immediately after the plants have flowered. The Forsythias are generally grown as climbers, but they make excellent bush plants for the shrubbery.

Plants Under Glass.

Autumn - Sown Annuals. — Schizanthuses, Mignonette and varieties of Clarkia elegans require close attention during the winter months. Pinching must be resorted to, Schizanthuses requiring the operation to be performed several times to induce a bushy habit. Mignonette and Clarkia require careful watering. The latter should be kept rather dry, or damping is sure to ensue.

Pruning Climbers.—Attention should be given to this work. Ivy-leaved Pelargoniums and Fuchsias should be cut well back to the old wood, and a good general rule is never to retain more shoots than can have their foliage fully exposed to the light.

Vitis henryana.—This beautifully-variegated Vine deserves to be more widely known. I have seen it recommended for the open wall, but for Scotland generally I fear it must be regarded as a conservatory climber.

Fruits Under Glass.

Pot Fruits.—If not already attended to, any trees requiring repotting should have attention forthwith. The aim of the cultivator, however, should be to retain the plants in their present pots as long as possible, consistent with their being maintained in a healthy and fruitful state. These conditions can often be maintained for a number of years by judicious top-dressing and feeding. After attention has been given to repotting and top-dressing, the pots should be plunged in some loose material, such as spent Hops or Cocoanut fibre, to protect the roots from frost.

The Hardy Fruit Garden.

Pruning Wall Fruit Trees.—This work should be pushed forward when the weather is dry and frost does not occur. The work of pruning Pears is much the same as that of pruning Apples, referred to last week. The Apricot bears its fruit partly on wood of the previous year's growth and partly on spurs two or three years old. All older spurs should be periodically cut away. Young shoots should be laid in about ten inches or twelve inches apart and be shortened to about a foot in length. The Peach bears on the previous year's wood, and young wood should in summer be laid in as advised for the Apricot. The shoots which have borne fruit during the past season should now be cut away.

Protecting Figs.—Where Figs are grown on the open wall, they should be protected during frosty weather by a screen of Broom, Heather, Bracken or Wheat straw.

The Vegetable Garden.

The Rubbish-Heap.—If the full value of the rubbish-heap is to be obtained, it should not be allowed to lie until by natural processes it again becomes a mass of earth, but should at the end of the season be turned over and a considerable quantity of quicklime incorporated with it. The lime will accelerate the process of decomposition and render the mass available for the vegetable crops to assimilate its fertilising properties at the earliest possible moment after it has been dug into the soil previous to cropping in the spring.

Herbs.—All herbs which have not already been cut down should now be cut over. The ground should be cleared of any remaining weeds and then be dug over.

Horse-Radish.—This is often a much-neglected crop. On account of its tenacity of life it is a popular fallacy that it may be allowed to take care of itself. On the contrary, if thick, succulent thongs (the only kind worth having) are to be produced, the crop must be very liberally cultivated. Now is the time to prepare for spring planting. Dig a trench from 2½ feet to 3 feet deep and fill it with decayed vegetable matter, leaf-mould and stable manure; then it will be ready for the reception of the crop in the early spring.

Cauliflower Plants.—Young plants in frames or plant protectors must not be allowed to suffer for the want of water, and, while they must be protected from severe frost, they should be fully exposed in mild weather. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

WISLEY'S NEED OF A COLLECTOR.

THE following letter, which appeared in last week's issue of *Country Life*, is of more than ordinary interest to Fellows of the Royal Horticultural Society and to flower-lovers generally;

"Among your many readers there are doubtless a large proportion of those persons whose names may be found in that distinguished list of 13,000 who are Fellows of the Royal Horticultural Society, and I therefore venture to hope that you will kindly ask for the views of those among them who are presumably not only interested in gardening, but are also loyal friends of that fine and important society, on the following criticisms, which are made in the spirit of the lover who cannot bear imperfections in the beloved. There has never been a time, I imagine, like the present when so many new and exciting plants and shrubs have been sent to this country from all parts of the world, when there is hardly a nurseryman of repute who does not send someone to the mountain fastnesses of Spain, Italy or China armed with enthusiasm and a trowel. Mr. Wilson and Mr. Forrest, both sent out by the enterprise of two of our biggest nursery-gardeners, are doing splendid work of this kind, and a special tribute to the admirable and scientific methods of Mr. Forrest was paid by Professor Bayley Balfour at the Primula Conference of the Royal Horticultural Society in April of this year. And yet—the rock garden at Wisley is dependent on the generosity of those Fellows who may choose to furnish it with their gifts of charity and superfluity. Surely the time has come when the Royal Horticultural Society should have a collector of their own. Ought it to be a fact that we owe practically every new introduction of recent years, not to the Royal Horticultural Society, but to private individuals, or the enterprise of nursery-gardeners? I am not expert enough in figures to make any deduction from the balance-sheet of the Royal Horticultural Society, published in the August Journal, but if the Society cannot afford a collector, surely among that 13,000 there are, at least, 1,000 who would gladly give a guinea a year towards this object for the honour of the Royal Horticultural Society and in the interests of horticulture. I am told that the objection to this would be that such subscribers would demand their annual pound of flesh in return in the shape of new plants; but, personally, I do not believe this would be so. I feel sure that they would willingly wait until such time as the plants had been proved and propagated at Wisley, when, possibly, a priority, according to the amount subscribed, might be arranged at the time when we all of us receive that exciting and unexpected little box of plantlets from Wisley. Again, it may be urged that there is a danger in all the indiscriminate collecting that is now going on of certain rare species being exterminated by the zeal and ignorance of the amateur rock gardener, but this is really no argument, as anyone who has visited even the smallest corner of the European Alps knows that 'rarity' means 'locality,' and that in their own habitat these things grow in such countless millions that all the nurserymen in England could not exterminate them. By all means let the Swiss protect their Edelweiss, if they think it worth doing. We do not want it; and, if we do, there are lawns where it grows in the short alpine turf like English Daisies—just as there are other places where you may sit and munch your unappetising hotel sandwiches on an acre-wide carpet of Eritrichium nanum. Again, it may be said that this work should be done by Kew, but the gardens at Kew are not only more limited in space, but are hampered by their proximity to London smoke and fog. Wisley gives up a large amount of ground and labour to the trials of such things as Violas and Dahlias, not to mention such utilitarians as Green Peas and Potatoes, which is work, I would humbly suggest, that might be equally well done by any nurseryman; but if lack of space is any argument against an extensive trial of new trees, plants, shrubs, or alpine plants, surely much useful work might be undertaken by wealthy Fellows with large gardens and expensive troops of highly-trained gardeners, and it would also be done more usefully in different parts of England, under more varied climatic conditions—and it would not be a difficult matter, one would think, to arrange for an annual report from these Fellows, or an inspector from the Wisley Gardens. There is one more point I would like to urge. Referring to paragraph 14 of 'Notes to Fellows' in the last number of the Journal, I find the following: 'In a Royal Horticultural Society garden *every single detail* should teach something,' etc. This is an admirable maxim, but I should like to mention (in a low voice) that many of the labels in the rock garden at Wisley teach things which were better untaught. Now, I do seriously think, Mr. Editor, that the gardens of the Royal Horticultural Society ought to be above reproach in this matter. It is not an easy thing to name Saxifrages, for instance, but there are people who can do it, and I maintain that it is a comparatively easy thing to avoid such mistakes as labelling a very common and well-known Linaria as 'requitriloba'—which is neither Latin nor anything else—to mention only one instance. No doubt many of these misfortunes arise from Fellows sending plants with illegibly written labels (I would not like to say with falsely written ones), and one does not expect the best rock foreman in the world to know everything; but there are plenty of experts, and why should not someone be asked to see that, at any rate, the labelling is correct? I do not ask for such subtleties as learned distinctions between Edraianthus and Wahlenbergia, or between Androsace, Aretia, or Douglasia, for the powers that be are not long together of one mind with regard to these high matters; but might we not have, at least, the last name but one? I trust that these remarks may be taken as written in no unfriendly spirit, for, on the contrary, they are written by one who has the honour of the Royal Horticultural Society very closely at heart and owes it much. No. 3986."

An Official Catalogue of Roses.—The official descriptive list of Roses, 1914 edition, just published by the National Rose Society ought to be in the hands of everyone who loves the Queen of Flowers. What "Whitaker" is to the business man, this catalogue is to the Rose-grower, for within its pages he can find a full and accurate description of every Rose worth growing, together with any little peculiarities that it may possess. Then the lists of Roses for various purposes, such as exhibition, bedding, pergolas and pillars, are invaluable, and quite worth the half-a-crown charged to non-members of the society for the handbook. Copies can be obtained from the hon. secretary, Mr. E. Mawley, Rosebank, Berkhamsted.

NURSERY NOTES.

MESSRS. WILLIAM CUTBUSH AND SON.

THIS old-established and well-known firm have for many years been regarded by gardeners as one of the best in the country, and it used to be, and still is, said that everything necessary for the garden can be obtained from them. For many years associated with the northern heights of London, to wit Highgate, not far away from Hampstead Heath, they have conducted a nursery business that is second to none in the country, and at the time of our visit in early October it was evident that it was not their intention to be left behind in the race for up-to-date methods that is now taking place on every hand. For that reason an entirely new nursery has been made at Highgate, where the head-quarters are situated, and this, with the extensive areas at Finchley and Barnet, comprise altogether well over two hundred acres. The Highgate nursery is to form a sort of show-place for the many kinds of plants raised at the other nurseries, though in the extensive glass-houses there a great many plants are raised and grown on to perfection. The extensive seed and bulb business is also conducted here under the personal supervision of Mr. Leonard Cutbush. Outdoors we found representative collections of Ivies (some 18 feet high), Clematises, Jasmines, Ampelopsis, variegated Elms and other trees, Wistarias in pots (both the ordinary sinensis and the newer, long-racemed multijuga), some fine plants of Crinodendron Hookeri, and a fine collection of weeping standard and other Roses. In addition, there was a wonderful lot of clipped Boxes and Yews and Bay trees in tubs, for which the firm have long been famed and for which they find there is an increasing demand, this seeming to indicate that there is a tendency to revert, to some extent at least, to the formal gardening of bygone days.

In the glass-houses we were particularly interested in the winter-flowering Begonias that were just beginning to flower. The value of these plants in the conservatory during the winter months is not yet properly appreciated in many private gardens, though it is difficult to understand how anyone can afford to be without them. In addition to those of the Gloire de Lorraine type, a fine example of which is Lady Waterlow, with large, ivory white flowers, Messrs. Cutbush had a very good stock of the newer winter-flowering tuberous-rooted kinds, of which Winter Cheer is perhaps the best-known example. For a comparatively small outlay on these flowering plants a conservatory could be transformed into a delightful retreat of soft colour harmonies that could not fail to dispel the gloom of winter in the most benighted districts. Bedding plants of all kinds, including a fine new Ivy-leaved Geranium named Radiance, with vivid scarlet flowers; standard and bush Heliotropes, Hydrangeas by the thousand, retarded Lilies, Spiræas, Lily of the Valley, Azalea mollis and Lilacs, and the variegated Bougainvillea F. K. Harris, which has beautifully variegated foliage but flowers like the ordinary kinds, were a few of the many good things that we noticed. In addition, there were several large houses devoted to Palms, and we were interested to see a splendid lot of Phœnix Roebelinii, which is about the best Palm of all for growing in an ordinary dwelling-house. As all the Palms and Aspidistras at Highgate are grown under as cool conditions as

possible, they are very hardy, and therefore more useful for decorating and house furnishing.

The glass-houses at the Finchley nurseries are mostly devoted to Perpetual-flowering Carnations, and on the occasion of our visit many beautiful varieties were in full flower and the plants in perfect health. A number of good new varieties have been raised here, one of the best being Mrs. Lucy McKinnon, a large-flowered and fragrant scarlet variety and the most brilliant of its colour that we have seen. Lady Ingestre, deep salmon pink, for which Messrs. Cutbush obtained an award of merit from the Royal Horticultural Society a year or two ago; Countess of Bradford, yellow, with rose markings; Countess of Onslow, heliotrope, with rose flakes; Jessica, white, with scarlet stripes, very fragrant; Marchioness of Tweeddale, deep pink; William H. Cutbush, scarlet; and White City, a good white, are others that have been raised at Finchley. In addition, the firm have all the other good standard varieties and novelties. Perpetual-flowering Malmaison Carnations have also come in for attention, and several good ones have been raised, notably King George, scarlet; Lady Miller, flesh pink; and Viscountess Goschen, dark rose. These have flowers resembling in size and form those of the true Malmaisons, with the perpetual-flowering properties of the smaller-flowered perpetual or winter-flowering kinds; hence they are a particularly useful and much-appreciated race. Of border Carnations we noticed some particularly strong young plants, many of which were ready for despatching to customers in all parts of Europe. Herbaceous plants of all kinds, including some very fine Michaelmas Daisies and Pæonies, and an extensive stock of all the best alpines find a happy home at these Finchley nurseries, until repeated orders have exhausted those available for customers.

At the very extensive Barnet nurseries, where Mr. William Cutbush keeps a personal eye on them, Roses, ornamental evergreen and deciduous shrubs and trees, and fruit trees form the main features, though there are many what one might term side-lines of considerable interest. For instance, Violas are propagated here by the thousand, and Mr. Cutbush has for some years been personally working up particularly good strains of Pentstemons and Antirrhinums, flowers which he confidently believes will before long occupy much more prominent positions in our gardens than they do at present. Then there are Sweet Violets galore, while in the glass-houses we were particularly pleased to find some thousands of well-grown Ericas or Heaths for conservatory decoration. Pot Roses, too, were there in abundance, and for ten months in a year the firm are prepared to supply flowering Roses in pots. Outdoors we were much interested in some particularly fine Rambler Roses in pots ready for forcing. Many of these had sturdy rods over twenty feet long, which augured well for the display of flowers when the plants have been subjected to the proper temperature. Of ordinary bush and standard Roses in the nurseries the firm have some 230,000, these embracing all the best and most up-to-date varieties, including some particularly fine Dwarf Polyanthas. Fruit trees were there in enormous quantities, trained examples of all kinds calling for special comment. Lack of space will not allow us to go into details of these, but we may say in passing that all were in perfect health and well ripened, so that they should do well when transferred to their permanent quarters. This also applies to the ornamental trees and shrubs, of which, in addition to the ordinary nursery stock, Messrs. Cutbush have some extra fine specimens that would be ideal where an immediate effect was desired.

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

PERENNIAL ASTERS (*Arundel*).—Michaelmas Daisies may be planted now or at any time while the weather is open up to the middle of December, or in mid-February to the end of March, without danger of loss. Climax is one of the largest-flowered forms. Mrs. Rayner, Ryecroft Purple and Ryecroft Pink, Moonlight, and Amellus varieties would all probably suit your purpose.

BORDER CARNATIONS (*Southern Scotland*).—In these high positions of Scotland, especially where the soil is good, the best layers to obtain are those that have been specially hardened, that is to say, grown in a highly-ventilated house. When layered, and after rooting moved from a cold frame to the open air, they seem to grow with remarkable vigour after this treatment in any part of Scotland. One Southern grower who makes a speciality of this method is Mr. James Douglas, Carnation specialist, Great Bookham, Surrey. A list of those varieties that have proved the best for Scotland is appended: Mrs. Andrew Brotherstone, mole carmine, spotted white; Mrs. Eliot Douglas, yellow self; Montrose, white, marked scarlet; Robert Bruce, apricot; Renown, buff ground, suffused scarlet; Kate Nickleby, white self; Annie Laurie, blush pink; Basuto, crimson; Rosy Morn, rose pink; Bookham White, white self; E. Schiffner, orange self; and The Bride, white, marked rosy scarlet. All of these have received first-class certificates from the Royal Horticultural Society, and all have been tested for some years and found to be the hardiest of their race.

THE GREENHOUSE.

CHRYSANTHEMUMS: SYSTEM OF POINTING BLOOMS (*B. C.*).—There is no rule as regards pointing large show blooms at the National Chrysanthemum Society's shows. To the best of our knowledge and belief, boards of blooms are pointed only when the difference between certain exhibits cannot be determined by a superficial inspection of the blooms. Generally speaking, four or six points is the maximum obtainable for any one bloom, and the points considered are size, colour, form and freshness. As regards size, both depth and breadth are taken into consideration. Blooms having these points well represented are sure to score.

LARGE SPECIMENS OF VARIEGATED ALOES (*C. G. O. B.*).—Your variegated Aloes, or Agaves as they are correctly named, doubtless require repotting. Such plants often do quite well in the same pots for a period of from five to ten years. The older the plants are, the longer they may be left in the same pots, that is, providing they are fed regularly with manure-water. The repotting may be attended to in February, using a compost of good, turfy loam, broken up into good-sized pieces, with a fair addition of small pieces of sandstone or old mortar rubble and sand. A pound or so of half-inch bones may also be added to the soil. Drain the new pots or tubs well, and work the new soil firmly about the old balls. The second growth of which you speak should be removed if it can be done without injuring the plant to which it is attached. That and any suckers may be potted and treated as young plants.

FRUIT GARDEN.

SILVER-LEAF ON PLUM TREE (*Arundel*).—The Victoria Plum is affected with silver-leaf disease. This disease is due to a fungus (Stereum purpureum), which gets into the plant by a wound. Trees affected rarely recover, and we recommend you to remove the tree at once and replant this autumn with a healthy tree.

SMALL RED EGGS ON FRUIT TREES (*T. C. C.*).—The eggs are those of the mite Oribata lapidaria. These mites, which are little larger than their eggs and of a slightly darker red, are very common on Apple trees. They are quite harmless, and are, indeed, likely to be beneficial, for they eat the spores of lichens and fungi.

BITTER-PIT IN APPLES (*J. R.*).—The fruit is attacked by bitter-pit, a fungoid pest that is very troublesome over most parts of the country. We would suggest spraying the trees while dormant with half an ounce of sulphide of potassium dissolved in a gallon of water, and next year, when the fruit is half-grown, with a quarter of an ounce of sulphide of potassium to a gallon of water.

SUMMER AND AUTUMN FRUITING RASPBERRIES (*Silly Gardener*).—It is quite right to say that ordinary summer-fruiting Raspberries, if cut down to the ground in winter, will bear a crop of fruit in the autumn on the canes of next year's growth; but they will not produce such heavy or satisfactory crops as will the autumn-bearing Raspberries proper. Where, then, does the advantage come in of pruning them in this way? If you do not want summer Raspberries, then plant autumn-bearing varieties only. There are some grand varieties of these to be had now.

MOULDY SPOTS ON GRAPES (*A. J. P.*).—The Grapes are dead ripe and the spots indicate natural decay. They also show that the air of the house is too cold and moist. Apply a little heat to the pipes and keep the house perfectly dry. Give air freely on fine days and a little at night as well. There will appear no more spots then, and the Grapes will keep in good condition for another month or six weeks.

TO STORE WALNUTS FOR WINTER USE (*Tweedside*).—We have tried many ways, and found the following to be the best: Put down a layer of slightly-moistened sand half an inch deep on the bottom of a box, packing-case, or anything of the sort available, place on this a layer of Walnuts and then a layer of sand, and so on until the box is full. We have found the Walnuts to remain in a good condition longer when the boxes are kept in a fairly dry room and not too cold.

PEACH FOLIAGE GOING WRONG (*J. D., Devon*).—The Peach foliage is damaged by the black thrips. Fumigate the house on two occasions, with an interval of about three days between, with one of the nicotine fumigants, taking care that the work is done after dark. The fumigation may spot the Grapes unless their skin is quite hard, and the fumes may prove harmful to persons eating the Grapes if they are used soon after. It would, therefore, be well to remove them before the fumigation is done. The Cherry is attacked by the boring moth larva, called Semasia woeberiana. This is a difficult pest to deal with, but you will find that smearing the trees in May with a mixture of clay and lime will tend to prevent the moths laying their eggs.

MISCELLANEOUS.

CELERY DISEASED (*E. C.*).—The Celery is attacked by the leaf-spot fungus, Septoria Petroselini Apii. It is too late to effect a cure. The disease is carried in the seed, and is to be found on the plants from May onwards, when spraying with Bordeaux mixture should begin.

WIREWORMS (*W. B.*).—No measure is so effective as constant cultivation in ridding the soil of wireworms. Your experience with the soil fumigant is similar to that of many others, and if you cannot for any reason hoe frequently and dig often, we recommend you to trap the pests by burying pieces of Potato or Carrot near their haunts, marking the position of the pieces and examining them frequently.

CARNATION SPOT FUNGUS (*Anxious*).—The Carnations are attacked by the Carnation spot fungus, Heterosporium echinulatum. This fungus is always more prevalent when the air is damp, and we recommend you to plant the Carnations in a place where the air has free circulation, and to spray them, after removing the damaged leaves, with a solution of potassium sulphide, 1oz. to three gallons of water.

TREATMENT FOR OLD LAWNS (*H. K.*).—You may apply a dressing of well-decayed stable manure to your lawn at once, with good results, and in spring a dressing of bone-meal would do good. The manure should be worked about well in order that the grass may grow through it easily, and the bone-meal should be applied during damp weather. Soot and wood-ashes are also useful, but the latter encourages the growth of Clover.

CATERPILLARS TO NAME (*Cottingham*).—The grub sent is the larva of the garden swift moth. The grubs feed on fleshy roots of all kinds, and are very partial to bulbs and Pæonies. Birds eat them greedily when they are turned out from the soil, otherwise they are difficult to deal with. Carbon bisulphide may be injected into the soil, poured into holes near the hiding-places, half an ounce in each hole, made by a stick to a depth of about nine inches. The moths flit over the beds at dusk in June, and may be captured by means of a butterfly net.

GRUBS IN GARDEN SOIL (*E. E. B.*).—The grub sent is the larva of the cockchafer. We recommend you to turn the ground up well and expose the grubs, which will be eagerly devoured by the larger birds. Rooks and gulls are very fond of them, and starlings will eat them. The ground in which plants are growing may be treated by injecting half an ounce of carbon bisulphide to the square yard. The fumes of this substance are deadly to animal-life (it is an excellent thing to use in killing wasps before digging out the nests), and does not injure the roots of plants.

VASES AND BOWLS FOR TABLE DECORATION (*M. C. B.*).—There is no golden rule as to the kind of vase or bowl that should be used in a table decoration, and we are not aware of there being anything new in receptacles of late. A bowl of glass or silverware of medium size should answer well for the centre of the table, and four small vases—one at each corner of the table—will be quite sufficient for a table of the dimensions you give. A tall glass bowl would be too big for a small table. Epergnes have gone out of fashion with those who have a true artistic temperament. Chrysanthemums of yellow and rich orange, with just a light dusting of bright crimson, are always most effective by day and night. Use in association autumnal and light green greenhouse foliage. Avoid crowding, and let each flower speak for itself.

NAMES OF FRUIT.—*G. W.*—Christmas Pearmain.——*G. C.*—1 and 2, Alfriston; 3, Waltham Abbey Seedling, 4, Wellington; 5, New Hawthornden; 6, Hoary Morning.——*M. W. M. B.*—1, Queen Caroline; 2, Warner's King.

NAMES OF PLANTS.—*J. E. L.*—Aster diffusus horizontalis and Polygonum vaccinifolium.——*D. K. S.*—1, Cornus sanguinea variegata; 2, Cassine fulvida; 3, Olearia macrodonta; 4, Cotoneaster frigida; 5, Arbutus Unedo; 6 Garrya elliptica

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

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Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

The Cape Gooseberry in Scotland.—Fruits of the Cape Gooseberry, Physalis edulis, have been offered in the Edinburgh Market and have met with a ready sale.

Draining Gardens.—Very fortunate is anyone who has a garden well drained, and at the same time possesses sufficient depth of soil to suit his crops. Any drains that require renewing or repairing should be commenced now, as it gives the disturbed soil time to settle again before the spring; 3 feet 6 inches deep should be a minimum, as gardens, particularly those for vegetables, are cultivated to a good depth.

The Use of Fallen Leaves.—It is very important that as many leaves as possible should be collected, particularly those of Oak and Beech, taking care to pick out sticks, stones and weeds. Stack them in low heaps where only moderate fermentation will take place. These leaves are excellent material for making hot-beds, and also for potting purposes next season, as leaf-mould is an important ingredient in most potting composts for the encouragement of root action, besides possessing considerable nutritive value.

The Value of Sweet Briars.—The Sweet Briar is receiving much more attention than it did at one time, owing, no doubt, to the many beautiful forms of Lord Penzance's hybrids from which to select. For hedges, particularly where space permits them to more or less ramble at leisure, they have a very attractive and natural appearance, and might well replace some of the old, rough hedges that often exist near gardens. Apart from their beautiful flowers and fragrant scent, their bright heps, which are generally borne in great profusion, are a source of beauty the whole winter through, particularly in such places as the wild garden.

Lily of the Valley.—This is the month when permanent beds should be thoroughly cleaned over and a light dressing of leaf-soil and manure given, just sufficient to cover the surface of the soil. Old clumps may with advantage be lifted and replanted, and, if necessary, a good many of the best crowns be selected for forcing. The ground, where fresh beds are to be made, should be deeply dug and richly manured, and if it is in partial shade, so much the better. Plant the crowns just under the surface in rows 4 inches to 6 inches apart, making the beds about four feet wide. In this way the flowers are easy to gather.

A Rare Indian Lily.—Having been apparently lost to cultivation for some few years, it is interesting to record the flowering of Lilium wallichianum in the greenhouse at Kew. It has a fairly long funnel-shaped flower, white inside, with dark purple markings on the exterior. In a wild state Wallich's Lily is said to be vigorous in growth, but in this country plants 2 feet to 3 feet high, bearing one flower, are the rule rather than the exception. Though found at fairly high elevations in the Himalayas, except in a few favoured spots in the South and West this Lily is only suitable for cultivation under glass, either in pots or planted out in a border with L. sulphureum.

The Christmas Daisy.—This beautiful plant, Aster grandiflorus, is practically the last of the family, and, unfortunately, it only comes to perfection outside during mild autumns. It is one of the best, and is well worth growing. Coming as it does after all the others are over renders it all the more valuable, as may be realised this year in those places where it has been able to bloom in all its loveliness. It makes a very useful pot plant; in fact, it is the most reliable way of obtaining its blooms. The blue flowers look very effective when mixed with Chrysanthemums.

Nerine flexuosa alba.—All the Nerines are useful subjects for the cool greenhouse, but none of them is more attractive than the white Zigzag Nerine (Nerine flexuosa alba), with its snowy white flowers, the petals of which are elegantly undulated and recurved. A batch of this choice, free-flowering plant intermixed with other Nerines, particularly the large rosy pink N. Bowdenii or similar plants, will add greatly to the beauty of the greenhouse. Like all others of the genus, it must be well ripened in the summer by placing the plants in a dry place in full sun and withholding water from the time the leaves die till the flower-scapes appear, when they may be repotted or top-dressed.

The South African Kaffir Lily.—Though perhaps more frequently grown in pots for the decoration of the cool greenhouse, the Kaffir Lily (Schizostylis coccinea) grows and flowers more freely on a warm border outside. A sunny south border at the foot of a wall or greenhouse, such a place as one chooses for the Belladonna Lily, just suits it. If not well drained, 15 inches of the soil should be taken out, and some broken bricks or clinkers put in for drainage. In a soil consisting of fibrous loam, leaf-mould and coarse sand, the bulbs grow and flower freely. Flowering in October and November, it is particularly valuable, more especially from the fact that when cut the blooms last well in water.

Erica gracilis for the Greenhouse.—This pretty South African Heath is one of the few species which remain to remind us of a class of greenhouse plants which were in our grandfathers' days considered to be among the most decorative of indoor plants, and the supreme test of a gardener's skill to produce them in good condition. It is usually grown in large quantities in a few market establishments, and from those places the general trade is supplied. The plants as we usually see them are grown in 5-inch pots, and they form charming little bushes 9 inches to 15 inches high, made up of eight or nine main and numerous side branches, which, from early autumn until Christmas or later, are covered with small, bell-shaped, pink or white blossoms, according to the variety.

CORRESPONDENCE.

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

Autumn-Fruiting Raspberries.—These are still bearing fruit here. We have had a grand crop throughout the past three months, the fruits being remarkably large and of good flavour. The canes are cut down in the early spring to within a few inches of the ground, fruit being borne on the current year's growth.—ELEANOR G. SHELLEY, *Avington Park, Alresford, Hants.*

The Mild Autumn in Ross-shire.—From the beginning of July we have been favoured with one of the best seasons known here for years. Bedding plants did wonderfully well, and it may interest readers to know that Begonias were in full bloom up till October 28, some even flowering on November 8. Dahlias, too, have given us their full share, and early Chrysanthemums are still to be obtained out of doors.—ALEXANDER ROSS, *Courthill, Lochcarron.*

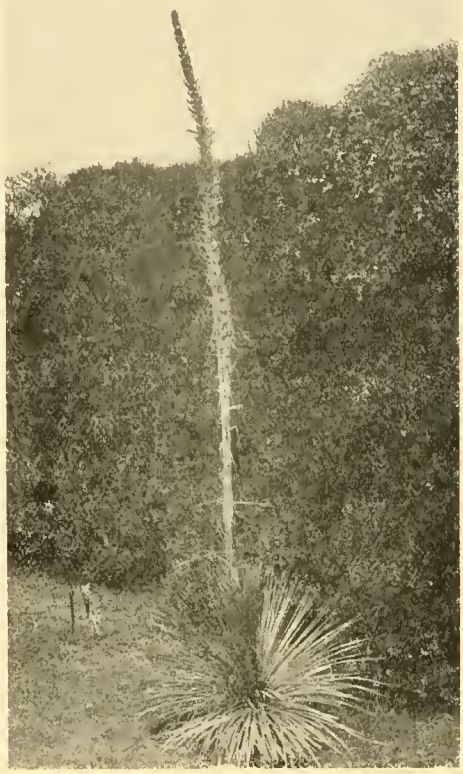
Cyclamen ibericum.—This plant has been grown here for a good number of years, and last year was the first time that we recorded it as being in flower before Christmas, stray flowers appearing here and there before that date. This year its precocity is even more striking, quite a number of the plants being in full and luxuriant bloom at this date (November 19), while C. neapolitanum has still a flower or two left. I should think it is unusual for the flowering periods of the two species named thus to overlap.—F. H. C., *Rye.*

Hardiness of Dracæna australis.—The notes by "T. C. F. M.," page 570 of THE GARDEN for November 15, on the above plant are interesting. Here it is quite hardy, and receives no protection in winter whatever. Aralia Sieboldii, Hydrangea Hortensis, Camellias of sorts, Fuchsias and Azalea indica also stand the winter unprotected. The last named make fine plants and are studded with bloom. At Penrhyn Gardens Lapagerias and Oleanders are growing outside on walls, and stand the winters well.—J. S. HIGGINS, *Glynllivon Gardens, Carnarvon.*

Dasylirion Flowering Outdoors.—I am sending you a photograph of Dasylirion gracilis growing in the gardens of The Cottage, Porlock Weir, a residence of Mr. G. W. W. Blathwayt. It was planted in November, 1906, and last summer threw up a very fine flower-spike 12 feet high. The bushes at the back are fine examples of the small-leaved Myrtle. It may interest your readers to know that in this favoured spot, on the coast adjoining North Devon, this greenhouse evergreen is thriving so well out of doors, as also are a great many choice and tender flowering shrubs and plants.—R. H. LEGG, *Melksham House Gardens, Wilts.*

Primula Poissoni Flowering Late.—I can fully corroborate every word that Mr. Blake of Clandon Park says on page 570 of November 15 issue concerning the merits of Primula Poissoni. It is still in full flower with me, and, though of a colour which not even an enthusiast could avoid associating with magenta, does not suffer in consequence thereof by reason of its late-flowering propensity, which enables it to escape the risk of clashing with other subjects. May I further suggest, in reference to an enquiry as to a suitable plant for massing under trees, that Saxifraga umbrosa, or London Pride, is infinitely preferable to Ground Ivy, which was put forward in answer to the query. There are few things to excel the delicate pink, foamy masses of the blossoms of the Saxifrage when planted in large groups or as a continuous edging.—RAYMOND E. NEGUS, *The Lawn, Walton-on-Thames.*

The Persian Cyclamen as a Biennial.—I am obliged by the courteous letters of Mr. Brotherston and Mr. Willie (see page 558) relating to a previous article of mine on this subject. Like Mr. Brotherston, I am aware that very good results are to be had with old bulbs by some growers, and many and varied are the methods of culture advocated by successful cultivators. While I am quite willing to admit that my treatment of these two year old bulbs may in some respects be incorrect, I could easily retort that Mr. Brotherston's treatment of the plants the first year cannot be altogether right when the older bulbs give the finer flowers. The fact is, no one seems to be able to exactly state what the correct treatment should be to ensure first-rate results. Some months ago a correspondent of THE GARDEN advanced what was to me the most original idea on the subject, so that I determined to give it a trial. Briefly, his advice was to shake the bulbs quite free of soil immediately they had finished flowering, and at the same time to pull off the entire foliage and repot, using as small pots as it was possible to get the roots into. I was so struck with the idea that I experimented with a dozen good bulbs, and with very fair results. With a few other plants I somewhat modified the treatment, merely pulling off the foliage and then top-dressing with fresh, rich soil. The results here are particularly promising, the foliage being very large and healthy, while the crowns are fairly bristling with flower-buds. Talking of old Cyclamen bulbs, I may say that the late James Walker, gardener at Rivals Green, Linlithgow, grew the largest and most profusely-bloomed plants I have ever seen. In many cases they were at least 2½ feet across, and carried quite 200 flowers. The blooms were small, but very finely coloured. These bulbs were at least ten years old. Mr. Walker, a very able, all-round gardener, could make nothing of seedlings, and yet he never failed with the old plants. Who can explain this? How do Mr. Willie and Mr. Brotherston measure a Cyclamen flower? To me a flower 6 inches across seems enormous, and, incidentally, undesirable, unless they measure by stretching the bloom flat. I do not admire the "spidery" type.—C. BLAIR, *Preston House, Linlithgow.*



DASYLIRION GRACILIS FLOWERING IN THE OPEN AT THE COTTAGE, PORTLOCK WEIR.

Gentiana verna.—We are all, I think, indebted to Mr. R. A. Malby for his interesting experiments with Gentiana verna (page 548, issue November 1), and his record of the results obtained by plants under and without a glass covering will be helpful to many who are struggling with this charming Gentian, but who have hitherto failed. This question of winter covering is a most important one, and it is only by such experiments as those of Mr. Malby, when conducted over a series of years, that several points regarding the cultivation of certain flowers can be elucidated. I hope Mr. Malby is continuing the treatment of G. verna adopted last season, and I would suggest that this winter he should cover the plant left uncovered last winter, and leave the other without the glass for this season. The longer ones grows alpines, the less inclined is one to generalise and dogmatise. Campanula pulla (of which I shall have more to say at another time) is a case in point. To return to Gentiana verna, Mr. Malby is to be congratulated on his success, and it would help us to understand it better if he could give us the size of the plants when planted and that they have now attained. His success is very great, and many will almost envy him the charming display his plants must have presented last spring. I do not think, however, the main trouble with G. verna is its shy flowering, but its difficulty of cultivation, as in many gardens it is difficult to establish, and requires some attention to induce it to grow. We are, I think, often too generous in our treatment of this plant. It does not always do well in a rich soil, and I find that one of a somewhat stony character suits it best, especially when it is thinly "mulched" with small stones or gravel. This mulching has been found of great benefit in gardens where G. verna could not be grown when attempted without it. The glass covering is, it is probable, highly beneficial to the flowering of this lovely plant, and if Mr. Malby will only continue his experiments, I am confident that he will deserve well of other alpinists. We know that certain other plants, such as the Soldanellas, for example, flower best if they have been covered with glass during winter. We know, however, that a foot or 2 feet of position may cause one plant to bloom better than another, and I have two little clumps of G. verna about three feet from each other which behave quite differently, although there is nothing about the respective plants or their positions to suggest why this is. I shall at once endeavour to test Mr. Malby's suggestions by covering with glass the shyer-flowering of the two plants. Should it bloom more freely, I shall be ever grateful to your correspondent for his note. I may add that both plants are from the same parent—a free-flowering specimen in a garden where it had done well for years. Other plants in the garden might be tested, but these two will afford a better means of comparison.—S. ARNOTT, *Dumfries.*

Heliotrope Mme. de Blouay.—Although this Heliotrope cannot vie with such a variety as Lord Roberts in respect of brightness, being even rather paler then the common Heliotrope, Heliotropium peruvianum, it has much to recommend it for massing. It is the dwarfest variety I have seen, and the trusses, which are borne in great profusion, are quite three times the size of the common Heliotrope, and it possesses in full measure the delightful aroma of the Cherry Pie.

Chrysanthemum Elegance.—I have not seen this variety in any price-list, so I do not know how the vendor classes it, but it is an October crimson single, although not of the Mary Anderson type. I saw a batch of it in October, and was much struck with its floriferous character and its rich crimson colour; it is of medium height. I think, with an autumn even approximating to the one just closing, it might do quite well out of doors, even in Scotland. —CALEDONIA.

A Little-Known Rose.—I have never seen in any of your lists of Roses one called Donarte de Elvira. I chose it by chance out of a list years ago, and everyone who sees it wants it. It is a salmony pink, growing in long sprays, with lovely foliage, and is constantly blooming. I am picking it every day now. I have grown it over "banisters," made of twisted twigs, up each side of some stone steps leading to the garden, and, of course, now one sees no foundation—nothing but Roses. It is a Rose that, if better known, would be grown by everyone.—MARION DUNELL, *East Harling, Norfolk.*

Hybrids from Primula obconica.—Regarding the remarks in THE GARDEN for November 8, page 564, in connection with P. obconica, there is not, so far as I am aware, any hybrid in which that species figures as one parent. I have tried to cross it with P. cockburniana, P. pulverulenta, P. cortusoides, P. capitata, P. Forbesii, P. frondosa, P. marginata, P. rosea, P. vulgaris, P. Veitchii and P. megaseæfolia. I have raised seedlings from the latter which was fertilised with P. obconica, but no sign of hybridity could be detected. These were "selfed," and the result was still P. megaseæfolia. I once heard that a plant had been raised from these two species which was fairly intermediate between the parents, but I did not see the plant and cannot vouch for its accuracy. Perhaps other readers may have been more successful.—T. W. BRISCOE.

Hints about Campanula patula.—May I take exception to Mr. Arnott's note on Campanula patula in your issue of November 8, page 562? This Campanula is *never* coarse, but extremely elegant and graceful. It is beyond all question a biennial. Division as a method of increasing (as ordinarily understood) is quite impossible. It seeds itself freely in damp, shady situations. Its only fault (besides that of being biennial) is that its long, wiry stalks are not always strong enough to support the flowers; but this occurs because we move it from its natural habitat of the undergrowth and bushes, where it can be seen in some of our Herefordshire woods in wild profusion. Did I not know the plant well in its wild and cultivated state, I would not dare to take exception to such an authority as Mr. Arnott.—ERNEST BALLARD, *Colwall.*

FORTHCOMING EVENTS.

December 2.—Royal Horticultural Society's Exhibition. Perpetual-flowering Carnation Society's Exhibition at Vincent Square, Westminster (two days). Scottish Horticultural Association's Meeting.

THE FRUIT GARDEN.

THE BEST CHERRIES AND THEIR CULTIVATION.

FROM the days when Henry VIII. scoured the Continent for new fruits and the resulting finds were planted at Teynham, Kent has been famed for its Cherries. But even in this county their culture is localised to a large extent, and the reason for this will be found to be—chalk. Where there is an abundance of this mineral, there are Cherries flourishing. On the granite soils, such as are found, for example, in the West of England, it steadfastly refuses to grow. The lesson is obvious. This fruit is somewhat impatient of the knife, and therefore restricted forms such as espaliers are not advisable. Even the more natural fan-trained forms on walls should not be too strictly dealt with in regard to pruning. The best wall fruits I have seen were grown on trees the tortuous branches of which would shock those whose eye for symmetry is well developed, but at the same time please those who consider that the first duty of a fruit tree is to fruit. The pyramid form is suitable, if not pruned too hard, and especially for varieties of the Duke race, whose neat, upright habit takes them halfway to this form. Cordons also do well on walls if not too much encouraged with nitrogenous manure, and this advice, indeed, applies to all forms. In the early stages of growth stable manure should be strictly avoided, and potash and phosphatic manure should only be given, with, of course, lime, if this is not present in the soil, in fair quantity. The culture of this fruit under glass is not undertaken so often as it should be. To defeat spring frosts and, incidentally, the feathered tribes, this method is very desirable, and for those who have not eaten "under glass" fruit a revelation awaits them. As the cooking Plum is to the Green Gage, so are outdoor Cherries to the indoor ones.

The soft-fleshed Bigarreaus, so unfit for the untender mercies of Covent Garden, only require to be better known to those whose idea of a Cherry is the indigestible, if profitable, Napoleon; and the black varieties, such as the Tartarian or Circassian, are found in the highest perfection under orchard-house culture. The varieties that can be recommended for quality are, in the yellow, Bigarreaus, Frogmore, Elton and Governor Wood; in black varieties of this race, the Tartarian above-mentioned, Early Rivers and Waterloo; and the old St. Margaret's or Tradescant's Black Heart, a name which takes us back to the Duke race, whose refreshing acid flavour is acceptable to many palates, and are best represented by May Duke, Royal Duke and Archduke.

The Morello Cherry needs no recommendation. Its preference for a cool wall and its never-failing cropping qualities have won it a place in all gardener's hearts. Of similar flavour is the Kentish Red, a very distinct variety, which for cooking is quite unequalled. Cherry jam made of this variety will be the first sort to disappear from the pantry. Use half a pound of sugar to 1lb. of fruit, and you have a preserve fit for the proverbial king. To sum up, the secret of Cherry-growing is to forget the knife and the manure-barrow, and remember the lime. It seems a pity that these fruits are not more extensively grown in many gardens where the soil and situation are well adapted for them. If the hints given above are acted upon, the trees ought not to give much trouble. E. A. BUNYARD.

THE FLOWER GARDEN.

THE NAMING OF TULIP BREAKS.

THIS is doubtless a most important question which needs definite settlement, and the Tulip trials organised for the next flowering season will afford a splendid opportunity for it. The Editor and Mr. Jacob are kind enough to honour me by asking my opinion, but I am sorry to say I do not think I have yet found the philosopher's stone. I trust Mr. Leak and Mr. Hugh Dickson have been more fortunate.

Let me first state that the system of naming a broken Tulip with the same name as the breeder cannot be maintained, either for the Rembrandts originated from the Darwins or for any other class of flowers. It would lead to hopeless confusion, because the addition "feathered" or "variegated" or "broken" would not be generally used for the broken form. Several examples of trade varieties of early and Cottage Tulips prove the necessity of changing such names, *e.g.*, a yellow and buff colour break from Cottage Maid was originally called Cottage Maid broken, but when it became more generally known and appreciated it was called Cottage Boy; the white colour break of Joost van Vondel, formerly known as Joost van Vondel white, has since been dedicated to Lady Boreel; the feathered form of La Merveille has got the name of L'Hermite.

The second point to consider is that, if a breeder breaks, it does not always do so in absolutely the same style. It is quite possible that Mr. Farncombe Sanders breaks into a boldly-flamed form in A's garden, into a feathered form with B, and into perhaps still a third style in C's nursery, or even in more than one form in the same garden In such cases A, B and C are certainly each entitled to give distinct names to their breaks. The difficulty only arises if such breaks are absolutely the same, and in such cases only a nomenclature committee would be able to settle things satisfactorily.

If the break is of real merit, it will soon be shown before the Tulip committee, and become known under a well-established name. If others are fortunate enough to have got the same break, they will be glad to adopt this name. Breaks of inferior quality which originate in more places at the same time will not be propagated or will soon have to disappear. Even if they had got several names, the confusion would not be very serious.

I do not see a way to express the origin of the broken Tulip in its name. Some names may afford a chance of suggesting the relation between breeder and break, such as Cottage Maid and Cottage Boy among existing varieties, and Emperor and Empress, Castor and Pollux, Hera and Leander, &c., may do for coming varieties. But there is a limit to such names, and most of the breeders, and especially the Darwins, have already names which are not fit to choose appropriate names in this style for the breaks. In most cases the breaks will, therefore, have names entirely independent from the breeders. This is a drawback, but the only way to avoid confusion. No name must be used for more than one variety, and the confusion will only be definitely settled when the same name is not found among early Tulips and Darwins, or any other section. ERNST H KRELAGE.

ROCK AND WATER GARDEN.

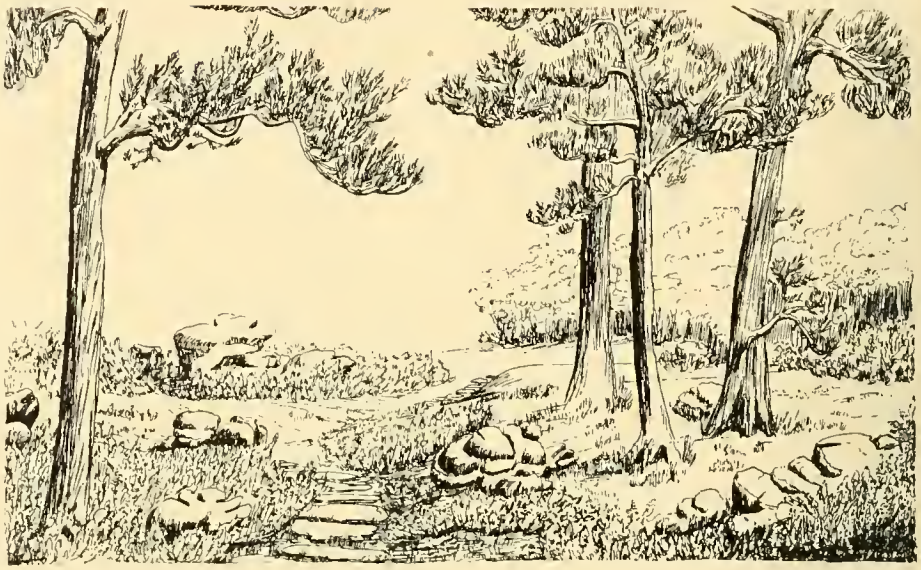
THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

(*Continued from page* 584.)

AS I shall deal later with the arrangement of stone and planting, it is superfluous to go further into the development of the site here. I will, therefore, consider another site, quite distinct in many features, and one that is very common. Sketch plan D shows a piece of waste land that has, in the development of other portions of the garden, been left over, more or less as a remnant. The land here is perfectly flat. As a termination to the series of gardens and lawns, a belt of shrubs has been planted, principally with a view to giving rather more seclusion to the gardens than is afforded by the woodland on the west. It was really a corner of a field used as a paddock, and as such was fenced in on both sides. One or two fine old Scots Pines suggested rock (Scots Pines always do, I think), and it was decided to turn it into a sort of rock garden. Further than this the ground offered no assistance towards design. No water could be introduced conveniently, and the surroundings were such that it would hardly have looked happy even had it been used. No one need be reminded of the picturesque association of Pines and rock. Some of our best artists, notably Leader and MacWhirter, have familiarised us with the scenes depicted by Scott in the following words:

> Cast anchor in the rifted rock
> And higher yet the Pine-tree hung—
> His shattered trunk, and frequent flung
> Where seemed the cliffs to meet on high
> His boughs athwart the narrow'd sky.

As in the previous instance I have given, here also the first thing to ask ourselves is: "What arrangement does the site suggest? What are the links that will connect the scheme with the other portions of the garden without allowing the one feature to spoil the other by inharmonious association, and, again, for what class of planting shall we arrange?"



SKETCH E.—SCOTS PINES, ROCK AND HEATHER, SHOWING THE TREATMENT OF A PORTION OF PLAN D.

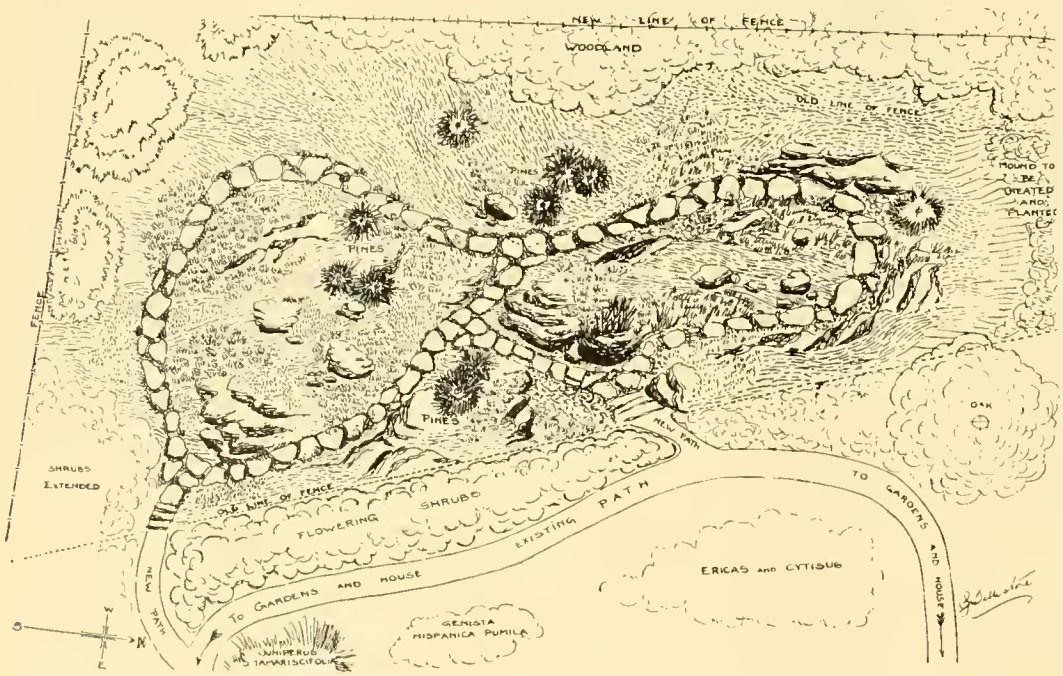
With reference to the arrangement or design, we have two controlling factors, viz., there are no natural banks or slopes to help us, and there are three points (the three groups of Pines), and the surrounding margins of the site are fixed by the position of trees. My idea for this is to treat it rather as a bit of Heather moorland than as an alpine garden. Glacial deposits of stone in the forgotten ages will account for a considerable amount of a sort of "boulder" outcrop—scoriated and broken masses that rise here and there without anything of order or method in their positions. I have seen such in the open fields in parts of Oxfordshire; on the Purbeck Hills in the neighbourhood of Swanage, and elsewhere. A slight undulating effect can be produced by creating depressions and mounds, not too pronounced, but all with some continuity of arrangement, so that shallow "valley" effects are produced.

The pathways should be the most emphasised of these valleys, giving the impression of being footpaths worn by the tread of ages, and should be so arranged that they create decided depressions in the neighbourhood of the Pines, as illustrated in sketch E. At the north and south ends any surplus earth may be deposited and planted with shrubs, so as to give a sense of enclosure, although sufficient openings should be left so that the view travels on naturally to any attractive features in the surrounding country. Semi-seclusion without any feeling of contraction should be the aim.

By comparing the two drawings D and E, a very fair idea of the scheme can be obtained. It will be seen that facile connection is made through the shrubs by introducing the pathways to and from the rock garden at the points where the access is easiest and nearest. In plan D, either in the original drawing or in reproduction, the path has become much too obtrusive; this must not occur on the land Always remember that pathways should be subservient to, and not dominate, the general scheme. In connecting up the paths, due regard should be paid to the fact that it is unpleasant to be brought up short by a sudden twist or bend (a point not too carefully studied by many English landscape gardeners). The transition from one path to another should be easy. In France they have a useful expression that instantly conveys my meaning If a proper connection of paths is made, they say it "goes." If the turn from one to another is abrupt or tortuous, it does not "go."

Colchester. GEORGE DILLISTONE.

(*To be continued.*)



PLAN D, SHOWING TREATMENT OF A PIECE OF WASTE LAND THAT CONTAINED SCOTS PINES AND JUTTING ROCKS

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

Some of the Newer Roses.

(*Continued from page* 586.)

TEAS FOR EXHIBITION.

One would like, before referring in detail to exhibition Teas, to put in a plea for their more extended cultivation. They are, taken as a class, undoubtedly the freest flowering, extending over a longer period than any other section of the Rose. To-day (November 16) I cut over a hundred Roses for the house. A very large proportion of them were Teas. In no other class are the colours so exquisite and refined. They are admittedly a little tenderer and more susceptible to frosts than their cousins the Hybrid Teas and the Hybrid Perpetuals, but I believe they could be grown with ease in any garden south of the Thames; yet in how many gardens are they almost entirely neglected. Some of the finest garden and bedding Roses we have are Teas, notably, Mme. Antoine Mari. A bed of this variety here has never been without flowers since May, and is now quite full of flower and bud, good in all its forms, in the half-open bud stage an ideal button-hole, growth and contrast of foliage with flower are excellent. Lady Hillingdon is the best yellow Rose for the same purpose; Mrs. Herbert Stevens, the best white. It is only when we come to pinks and reds that the Teas fail us, perhaps; but I am wandering away from Teas for exhibition purposes, to which I must return. Exhibition Teas are not many in number, but they make up in quality what they lack in quantity, and newer exhibition Teas are scarcer still. The last half-dozen years have not produced a dozen varieties, so my tale will soon be told. In alphabetical order one starts with a real good one in

Alexander Hill Gray (Messrs. Alex. Dickson and Sons, 1911).—Named after the veteran Tea Rose grower and exhibitor. I consider this the finest yellow Tea in commerce at the present time. It was awarded the gold medal of the National Rose Society as far back as 1908 at the autumn show, when the raisers had but a small stock of it, and we had to wait until 1911 before it was put on the market, so that it has only had two seasons in which to become known and grown. Despite this fact, it was more frequently exhibited at the National Rose Society's Show this year at the Royal Botanic Gardens than such old favourites as The Bride, Catherine Mermet, Souv. d'Elise Vardon, Cleopatra, Mme. Hoste and Mme. Cusin, to name half-a-dozen of the old stand-bys. Its colour may be described as deep lemon yellow, which intensifies as the flower ages; of good size and beautiful formation, with a high, pointed centre. It is almost at its best in the autumn, is fragrant, and was placed fourth in order of merit in Mr. Mawley's Analysis of the new Teas. I venture to think it will quickly displace one, if not two, of those now in front of it; in fact, the trade growers did so place it, and they would know more about its qualities.

Miss Alice de Rothschild (Messrs. Alex. Dickson and Sons, 1910).—A very beautiful Rose, but not often large enough to find its way into an exhibition box. A good colour, very strong perfume, which is distinctly Maréchal Niel like, very free and continuous flowerer, and a good grower. Not subject to mildew.

Molly Sharman Crawford (Messrs. Alex. Dickson and Sons, 1908).—The finest exhibition white Tea (both Mrs. Foley Hobbs and White Maman Cochet are tinted) that we have, and also a most excellent bedding Rose, sharing the honours in this latter respect only with Mrs. Herbert Stevens. Delicate eau de nil white, which in the fully-expanded flower becomes pure white. The flowers are of large size, well formed and held erect; sweetly scented. A very marked feature is the length of time a bloom will last on the plant, and also when cut. I have always had a great regard for this Rose since the first time I saw it in 1904 at Newtownards, and was very disappointed when it failed to obtain the gold medal. Its subsequent career has proved that it fully deserved it. I should put it in the first half-dozen exhibition Teas. It was more frequently exhibited, I see, than Maman Cochet at the "National" this year.

ROSE MRS. E. J. HOLLAND, A HYBRID TEA WITH DEEP PINK FLOWERS. SUITABLE FOR GARDEN AND EXHIBITION PURPOSES.

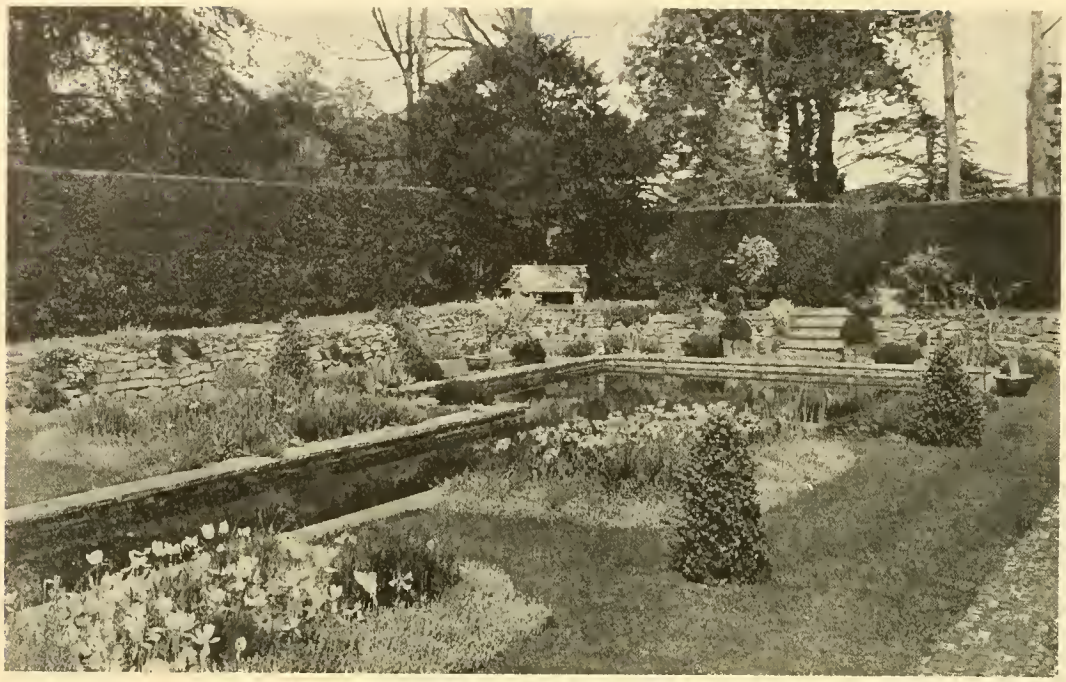
Mrs. Foley Hobbs (Messrs. Alex. Dickson and Sons, 1910).—If Molly Sharman Crawford can count on being in the first half-dozen, I am inclined to place this Rose at the head of the list as the most reliable (seldom does the split appear until the flower is too old to exhibit) Tea for exhibition purposes in commerce. It, too, had more than one try before it secured the gold medal. I think it was staged three times. It secured the silver-gilt medal at the National Rose Society's Royal Botanic Gardens Show in 1910, was exhibited at the Salisbury Show in the same year, but the award was not increased, and secured the gold medal at the autumn show, mainly with the help of some smaller flowers, separately staged, that were cut from that year's grafts grown under glass. The colour is delicate ivory white, with a faintly picoteed edge to the petals, of a clear, bright pink, and a young flower is a very beautiful Rose in consequence. A good grower, fine constitution, producing many fine flowers on a single plant at the same time; sweetly scented. What more can one say? What one can do is another matter. I suggest to those who have not got it, Order it at once from the raisers.

Mrs. Herbert Hawksworth (Messrs. Alex. Dickson and Sons, 1912).—Too new to have yet been seen much on the show-bench except in the exhibits of the raisers. There it has been frequently shown in fine form throughout the season. I remember an exceptionally beautiful bloom of it at the Gloucester Show. Its massive, yet smooth, shell-like petals form a large, globular-shaped flower of great depth. It is almost a pure white that I am sure has a great future in front of it. It is the only Tea of last year's introduction that is likely to be of service to the exhibitor, and this year, so far as I am aware, the record will be a blank. It will be noted that all of these new Roses I have named are produced by Messrs. Alex. Dickson and Sons, and the lovers of Tea Roses owe them a great debt of gratitude. When one remembers that with the exception of Mme. Constant Soupert we have not had an exhibition Tea from the Continent for more than ten years, it almost looks as if, without them, Tea Roses for exhibition purposes would cease to exist.

Mrs. Hubert Taylor (Messrs. Alex. Dickson and Sons, 1909).—A fine, strong, healthy constitution, with very vigorous growth. A suggestion of pale pink on its petals is one of its distinctions. A beautiful Rose, very free-flowering and, if disbudded, of exhibition standard. Supposed to be a Mme. Cusin seedling. It received the gold medal of the National Rose Society at the Luton Show in 1908, very much to the delight of Mr. Mawley I remember, after whose niece it is named.

Nita Weldon (Messrs. Alex. Dickson and Sons, 1909).—Another white Tea with a delicate flush. Sent out by the raisers as a decorative variety only, it has during the last two years been frequently exhibited, and was well represented at the "National" this year. It is a delightful Rose, round-shaped rather than pointed, very free-flowering and delicately perfumed. A good grower.

Climbing Souv. de Pierre Notting (Messrs. Frank Cant and Co., 1912).—All Tea exhibitors know how useful the type bearing this name is.



PART OF THE SUNK GARDEN AND LILY POND AT HALLINGBURY PLACE.

I suggest they will find this form of it much more so. It bears larger flowers, of a better colour and shape, with less of the outer short, ragged petal that so often disfigures the type. A plant I had from the raisers last year has been very fine, and is now flowering from the laterals of the early wood of this year's growth. It is a rampant grower, and I can strongly recommend it, not only to exhibitors, but to garden lovers, as the best yellow climber in commerce.

HERBERT E. MOLYNEUX.

Southampton.

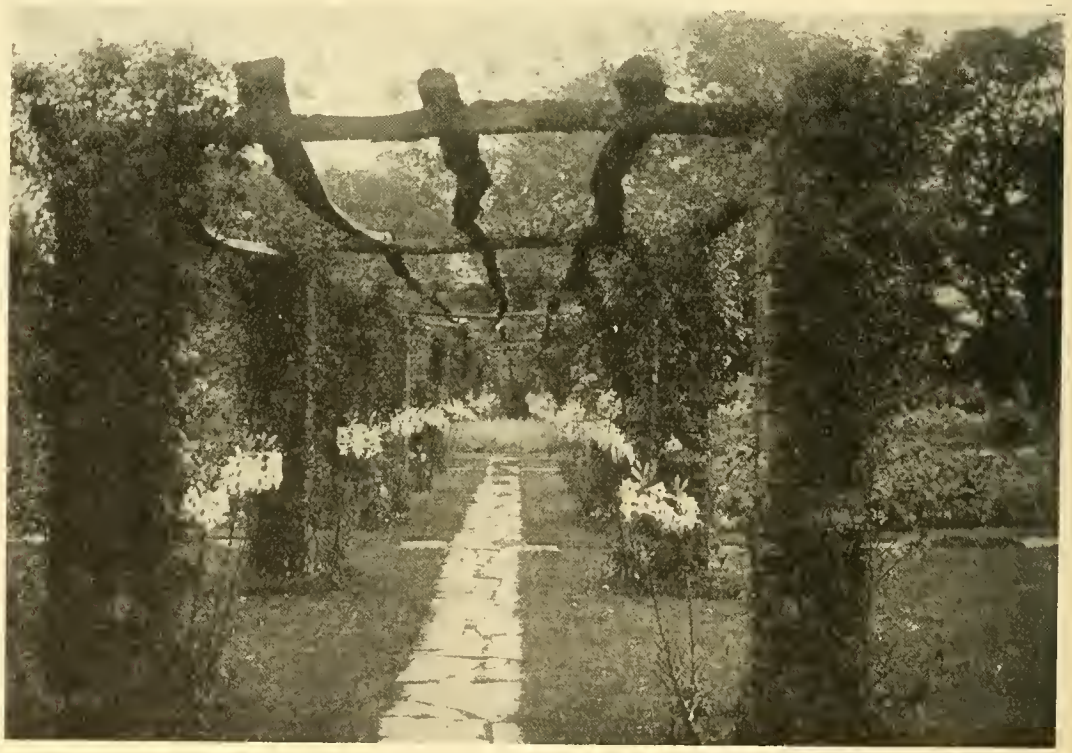
(To be continued.)

GARDENS OF TO-DAY

HALLINGBURY PLACE, BISHOP'S STORTFORD.

THE series of gardens at Hallingbury Place are particularly fine examples of what can be done in a comparatively short time, providing natural facilities, such as are to be found there, exist. When about three years ago Mrs. Lockett Agnew, whose charming home this is, decided to remodel the whole place, few of the beautiful features to be found there now were in existence; yet at the time of our visit, during the closing days of May, the whole were so well furnished as to give one the impression that they had been there for quite a long period. As already indicated, the surroundings of Hallingbury Place consist of a unique series of gardens, each complete in itself, but each leading naturally and connectedly to the next.

The Sunk Garden and Lily Pond.—Turning to the left, one enters through an unobtrusive but elegantly wrought iron gate, cunningly inserted between two tall English Yews, to a path bordered by tall Yew hedges. At about halfway along this path, at a point where it turns sharply to the right, the stranger involuntarily pauses in surprised admiration of the picture that breaks on his or her view. Stretching out at their feet is a long, formal Lily pond bespangled with the choicest Nymphæas in white, crimson, pink and cream varieties. The pond itself broadens out in the foreground into a square pool, and was designed specially with a view to obtaining the best possible perspective effect. On either side of the square pool rise two simple jets of water that, rising well above the eye-level, meet in a sort of arch of water that focusses the view down the long canal. The bed design is very simple, being merely rectangular borders running close up to the coping of the pond on either side, but by a skilful arrangement of the planting the most exquisite colour effects are obtained. This varies somewhat from season to season, that for 1913 being as follows: Three sides of the beds are edged with Nepeta Mussinii and Cerastium tomentosum. The fourth (or pond) side is grouped with pale blue Linum narbonense, Iris sibirica, and a few grassy plants, such as Eulalia japonica gracillima, &c. Each bed also contains two masses of a dwarf Rosemary, the remainder being filled in with Ivy-leaved Pelargonium Galilée. By this combination a delicious lavender and pink effect is obtained. Even if this were all there was to note about this garden, the effect would be charming enough; but it is *not*. The designer conceived the happy idea of sinking the whole some 2 feet and retaining the banks, with a dry wall so arranged that a magnificent collection of alpines and trailing plants could be introduced, and at the same time providing a sort of panoramic view of the gardens as seen



PERGOLA IN THE ROSE GARDEN, WITH MADONNA LILIES, AND A BED OF NEPETA MUSSINII IN THE DISTANCE.

from the approach. At the base of the wall garden runs a path surrounding the four sides, approached at either end down steps through the wall. Between this path and the beds a just proportion of grassy lawn is introduced, while surrounding the whole garden are broad grass walks that provide just that note of peace and rest so desirable in *any* garden, and so frequently missing when any attempt at formal lines is introduced. The whole effect of the sunk garden is to lead the eye towards the woodland, and attract the stranger on and through it to see what lies beyond. In passing, however, one is compelled to notice the fine groupings of Foxgloves, Mulleins and other flowering hardy plants, grouped with real natural charm in the shadows. There is one other feature in the woodland that demands notice—a magnificent pair of giant Cedars; two of the finest we have ever seen, indeed. It is said of these two that some 450 years ago one of the ancestors of the present owners of the estate brought two cones from the Holy Land and planted them in this position, and that these trees are the result.

May-Flowering Tulips Massed for Colour Effect.—Passing on to the left, along a slightly-curved path, the visitor (if he happens to be there at the right season) opens a small wicket-gate, takes a few steps forward, and receives surprise No. 2. On the right, stretching away in every direction among the trees, are gorgeous masses of May-flowering and Darwin Tulips. The trees have been so thinned as to create long vistas, huge beds made in the grass, and the varieties so arranged that from all the principal points of view the colours form distinct and pleasing gradations or combinations. In the foreground are massed the stronger colours, such as Pride of Haarlem and Professor Rawenhoff, while in the extreme distance the paler lavender and lilac shades, such as Melicette and Erguste, are used.

The Rose Garden.—Continuing the walk, one passes through Yew hedges into the Rose garden. Everything on the estate, the house, walls and buildings, is of brick—brick that has taken on the tone of age, and that looks warm and rich in the Herts atmosphere. The pergola that extends the whole length of the Rose garden was therefore constructed of old brick, relieved with tile creasing at about every four courses. This has the effect of somewhat lightening the appearance of the pillars, and gives a sensation of design that, while looking in no way "fussy," certainly achieves the result of destroying the monotony of plain pillars. All the walks are paved just sufficiently wide to ensure dry walking during wet weather. One of the most charming features in the Rose garden is a long, straight walk, paved and bordered with Lavender. Rising above the Lavender are stout Fir poles about five feet high, on which climbing Roses are festooned from one to the other. Colour effects here, as everywhere else, have been carefully studied. Pale lavender blue Clematises mingle with pink Roses on the walls; pretty combinations of pink and cream are used elsewhere, while here and there a mass of rich dark purple Clematis is mixed with just the right shade of crimson Roses. One could linger here and find much of interest for a considerable time, but there is much else that calls for attention. Stretching along the whole front line of the Rose garden are tennis and croquet lawns, approached by broad picturesque steps. Before the gardens, tennis courts, &c., were made, there was a sunk fence that extended right round the gardens, over half a mile in length. At this point the land has been sloped back to an easy gradient from the base of the wall and planted thickly with wichuraiana and other free-growing Roses. Crevices have been made in the brickwork and filled with Antirrhinums, Aubrietias, Alyssums, Achilleas, Campanulas and numerous other plants suitable for wall culture, with an artistic effect that it is impossible to adequately describe.

MAY-FLOWERING TULIPS GROUPED FOR COLOUR EFFECT UNDER APPLE TREES IN MRS. LOCKETT AGNEW'S GARDENS.

The Ornamental Pond and Rock Garden.—Leaving the Rose garden, through a very beautiful iron gate, one instinctively turns to the right, where a fine stretch of water meets the gaze. This is the "Morley" pond, believed to have been an old fish pond, and round which clings the romance of a ghost story. By the removal of some thousands of tons of earth, creating long, sloping valleys between giant Oaks right down to the water's edge, what was once a rectangular pond, bounded by gravel paths, has been transformed into a beautiful natural water garden, just sufficiently planted to give pleasing effects without overcrowding. Some irregular stepping-stones tempt the stranger on until, having traversed the length of the pond, one arrives at the rock garden. The overflow from the pond is taken through the rock garden in a sort of rocky stream. Great boulders rise from masses of every known variety of alpine and rock plant, and every crevice and cranny is rich with some choice gem, while the stream and its banks become in the summertime a miniature wilderness of aquatic and semi-aquatic life. Here, again, the art of concealment has been so carefully utilised that it is quite impossible to realise the existence of the rock garden until it actually breaks on the view. Returning by the opposite side of the pond, the visitor arrives again at the entrance to the Rose garden; but there is no need to go back that way.

The Wild Garden.—Straight on is a broad pathway, on the right of which is the wild spring garden. As, however, at the time of our visit this was past its best, we cannot speak authoritatively as to its effect, but the arrangement of its undulating walks, grassy banks and the remains of innumerable spring-flowering plants lead us to think that it possesses, when in flower, a charm all its own. Hastening on, one reaches a superb herbaceous border, and, pausing here and there to admire various effects therein, suddenly emerges into what is called the wild garden, where Art and Nature have combined to achieve one of the simplest, and yet most exquisite, garden pictures imaginable. Involuntarily, as one enters between the trees and catches glimpses of the riot of growth and flower in every direction, the words of Goldsmith's "Deserted Village" enter the mind:

> Near yonder copse where once a garden smiled,
> And still where many a garden flower grows wild.

Poppies, Pæonies, Liliums, Broom, Lupines, Rosemary, flowering shrubs of all descriptions, Azaleas, Briars, anything and everything have been pressed into service; nothing has been considered too good or too common if it was only beautiful and could

be made to grow. And we must here pay a tribute to the talented head-gardener, Mr. Heath, who by some extraordinary magical influence manages so to organise these delightful gardens that failures seem to be non-existent. We do not remember through the whole course of a pleasant day seeing one plant that did not speak eloquently of the care and attention bestowed, and yet the whole is maintained in its proper character.

Would space permit, there are a great many other interesting features at Hallingbury Place that we could write about, such as the beautiful Cedar avenue, the kitchen garden and glass-houses, and the old Mulberry tree planted in the time of James I. in obedience to the Royal Command to plant Mulberries for silkworms. The series of gardens, of which we give a few typical illustrations, have been designed and carried out by Messrs. R. Wallace and Co., under the supervision of Mr. George Dillistone, whose articles on rock garden construction we are now publishing. Mrs. Lockett Agnew, who is an ardent admirer of all that is beautiful in Nature, and particularly in gardening, has taken an enthusiastic interest in the making of these gardens.

GAS BOILERS FOR GREENHOUSE HEATING.

I DARESAY that many amateurs who, like myself, are away all day at business have avoided getting a greenhouse, or, if they have one, it is a cold house with no heating apparatus, owing to the trouble of attending to the fire. This is a very reasonable excuse, as it is no joke to come home after a long day at the office and go straight out to stoke a fire, nor is it the kind of work that one likes to ask those at home to do. I was in this predicament myself for some time, when I noticed a gas boiler advertised for heating a garage, and on making enquiries I found that there were several on the market suitable for heating greenhouses. I made up my mind then to get a greenhouse and try heating it with gas. I got a local man to build me a small greenhouse, and I then ordered the boiler and a suitable length of pipes, which arrived in due course. All were easily fitted together and a pipe connected with the meter in the house. On this pipe there are two cocks, one at the boiler and the other at the meter. The advantage of having the one at the meter is that during the summer, and when the heat is not wanted, the gas can be turned off here, and so prevent any possible waste by an escape in the pipe out to the boiler.

With the apparatus that I have, no fumes can possibly reach the plants, as the boiler is outside of the greenhouse, and is connected to the main pipes inside by two small pipes which pass through the side of the greenhouse. A small iron hutch measuring about twenty inches square fits over the boiler, and so keeps it protected from the weather, but at the same time lets the fumes escape through a number of ventilation holes round its sides. The pipes, which are 4 inches in diameter, heat up in about an hour from the time the gas is turned on, and, when the desired heat is obtained, the gas can be turned down to a small peep just sufficient to keep the heat in the pipes. It will thus be seen that a very small quantity of gas is consumed, and, as gas is now so cheap everywhere, the cost is not great.

THE BRILLIANTLY COLOURED COLUMNEA ŒRSTEDIANA FROM COSTA RICA. IT WAS DISCOVERED IN 1861, BUT LOST TO CULTIVATION UNTIL RECENTLY.

Any amateurs who have hitherto debarred themselves the pleasures of a greenhouse, owing to the time and trouble spent with the ordinary coke fire, should write to the makers of any of the advertised boilers and ask them for particulars. My own is a "Garajo," and I can confidently recommend this to anyone, as I have never had the slightest trouble with it, and the only attention it needs is an occasional brush over to remove any particles of dirt which the gas discharges. I have found it very economical, because if the nights are mild there is no necessity to have any artificial heat in the greenhouse at all, and should the weather become suddenly cold, the heat can be turned on in a second. On dull, wet days it can be most successfully used to dry the atmosphere by turning on the gas for an hour or so. These boilers are sure to give satisfaction if kept in good condition, and the time and labour they save make them a boon to the amateur. G. B.

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Columnea œrstediana.—A remarkably beautiful gesneraceous plant from Costa Rica. The species is of shrubby growth, the prostrate or trailing branches thickly set with small, ovate, shining leaves, from whose axils, on short footstalks, the 2-inch-long, tubular flowers issue. These latter are of the most brilliant colouring, almost orange scarlet, save for a touch of yellow colouring near the throat. The well-flowered example, illustrated on this page, was a great attraction. From Sir Trevor Lawrence, Bart., Dorking (gardener, Mr. Bain).

AWARDS OF MERIT.

Begonia Syros (B. socotrana crossed with a tuberous-rooted variety).—Quite a charming addition to winter-flowering Begonias, the compact habit and abundant flowering rendering it most attractive. The predominant colour shade is pink, with a suspicion of white at the edges. From Messrs. James Veitch and Sons, Chelsea.

Chrysanthemum Mary Morris.—A well-grown plant, some 4 feet high, of this single-flowered variety was shown, and a few such would be welcome in any conservatory at this season. The colour is deep terra-cotta, with reddish bronze. It is a very showy variety. From Mr. T. Stevenson, gardener to E. Mocatta, Esq., Addlestone, Surrey.

NEW ORCHIDS.

AWARDS OF MERIT.

The species and varieties to gain awards were of a varied nature. Lieutenant-Colonel Sir George Holford, K.C.V.O., showed a handsome Cypripedium named Cyclops. Messrs. Charlesworth and Co. gained awards for a grand variety of Lælio-Cattleya Feronia and for Angræcum recurvum, the latter an interesting species with comparatively small white flowers. Messrs. Flory and Black of Slough showed Dendrobium leeanum Langley Variety, while from Messrs. Armstrong and Brown came Miltonioda Harwoodii The Shrubbery Variety and Cypripedium Kentore, the latter an attractive variety possessing some of the characteristics of C. fairreanum, from which it is descended.

GARDENING FOR BEGINNERS.

FLOWERING SHRUBS FOR SMALL GARDENS.

There are now so many shrubs available for the outdoor garden that those who have little knowledge on the subject experience a difficulty in making up their minds which to choose; therefore the following list of twelve really good and showy kinds has been compiled as an aid to beginners who are about to make a selection for present planting. The peculiarities of each kind are dealt with briefly in the accompanying notes.

Hamamelis mollis.—This is the best of the Witch Hazels. It is a native of China, and is recognised by its large, broadly oval, hairy leaves and fragrant, golden flowers, which appear during December or January. The petals differ from those of other Witch Hazels by being flat with hooked ends, instead of twisted, as is usual in other kinds. It thrives in light, well-drained, loamy soil, to which a little peat has been added, and requires a light and open position. No other pruning is necessary except what is required to keep the plant in shape.

Ribes sanguineum atrorubens is a very rich coloured form of the ordinary Flowering Currant. When planted in good loamy soil it grows into a bush 4 feet or 5 feet high and as far across, and bears its rich red flowers freely during April. No regular pruning need be given, but if vigorous young shoots appear from about the base, it is a good plan to encourage them by removing one or two of the older branches.

Daphne Mezereum.—No plant is more popular than this when it is covered with its fragrant, red flowers in February. It is often met with as a shapely bush 2 feet to 2½ feet high. Cool, loamy soil containing a little lime suits it well. Towards the middle of the summer it is again showy by reason of its rich red fruits. It does not require pruning.

Spiræa arguta is, perhaps, the best of the early-flowering Spiræas. It is of hybrid origin and at its best during April. At that time every branch is laden with pure white blossoms. When planted in loamy soil it may be expected to grow at least 4 feet high, with a wide spread. The branchlets are slender and have a graceful poise. During the summer they carry dainty, light green leaves. It is only necessary to prune when the bushes are outgrowing their positions. The branches may then be cut back well as soon as the flowers fade.

Spiræa japonica Anthony Waterer belongs to the summer-flowering Spiræas. Growing about two feet high, it forms a shapely bush, and produces large, flattened heads of bright red flowers freely over a period of several weeks during July and August. The best results are obtained by pruning the younger branches about halfway back each spring, and removing at the same time some of the older wood right to the base. Give rich, loamy soil and a sunny position.

Magnolia stellata.—Though this is one of the most beautiful of all flowering shrubs, it is only suitable for the milder parts of the country, for its glistening white, star-shaped flowers expand during early April and are sometimes injured by late frosts. Under favourable conditions it forms a shapely bush 6 feet to 12 feet high, and the branches are hidden beneath its wealth of flowers. Well-drained loamy soil with a little peat suits it well. It does not require pruning.

VIBURNUM TINUS OR LAURUSTINUS, A BEAUTIFUL WINTER-FLOWERING SHRUB FOR SMALL AND LARGE GARDENS.

Forsythia suspensa is easily one of the best twelve flowering shrubs. A native of China, it forms a rather loose, graceful shrub 8 feet to 15 feet high, and bears a profusion of golden, bell-shaped flowers during April. Its character is altered according to the way in which it is grown. If allowed to grow freely, its main branches support themselves on any object within reach, and the secondary branchlets hang in graceful fashion round about. A somewhat similar effect is produced when it is planted against a pillar or trellis, but when planted in a bed in the open ground and cut hard back to within a couple of feet of the soil each year after flowering, it forms strong, erect shoots 3 feet to 4 feet long, which blossom from base to summit. Any good garden soil is suitable.

Prunus japonica flore albo pleno.—This is a double white flowered form of a dwarf Cherry from China and Japan. It forms long, slender branches, which bear blossoms from almost every leaf-axil during April or May. Good, loamy soil must be provided, and some of the older wood be removed every second year to make way for young growth, for the more vigorous the young wood is, the greater is the number of flowers.

Diervilla Eva Rathke is one of the most beautiful of the many charming garden forms of the genus. Its rich crimson flowers are borne freely during the greater part of the summer. Plant in rich, loamy soil and remove a little of the older wood each year, allowing the young wood to remain its full length.

Viburnum tomentosum plicatum.—Few shrubs are more beautiful than this during June or early July, for at that period it is a mass of round flower-heads, the flowers being sterile and made up of large white bracts after the manner of our common Snowball Tree. It is a native of China, grows 5 feet high in loamy soil, and requires no pruning. A light and sunny position is desirable.

Viburnum Tinus.—This is the Laurustinus of Southern Europe and our gardens. Many people will doubtless be familiar with it, and those who do not already know it may gain a good idea of its beauty from the accompanying illustration. Its dark, evergreen leaves provide an excellent background for its waxy white flowers, which open at intervals from November to March. Ordinary garden soil suits it, but it must not be transplanted when large. No regular pruning is necessary.

Cytisus scoparius andreanus is a variety of the common Broom which differs from the type by having rich reddish brown wing petals. It may be grown almost anywhere, even in comparatively poor soil. Pruning must be practised each year as soon as the flowers fade, but the branches must not be cut back into wood which is older than one year. The blossoms appear in May.

In a future article I will name another dozen for those who require a wider selection. D.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Helleborus niger.—This beautiful midwinter flowering plant is in a forward condition this year, and to ensure having the blooms as free from marks and stains as possible, steps should be taken to cover them with lights. Before doing so all dead and decaying leaves should be cleared off the plants, and a good soaking of liquid manure may be given. The lights should be raised above the plants some 2 feet or 3 feet, so as to allow a current of air to pass over the plants, and thus keep them as dry as possible at this season. The practice of lifting the roots and placing them indoors is not to be recommended, as, by covering as advised, the flowers may be had quite as clean, and, further, there is no check to the plants. If lifted, they take at least two seasons to get over the check.

Solomon's Seal.—This ever-popular plant is very useful in the spring for cutting, and where grown in quantity, lifted clumps make good decorative subjects for the conservatory. To increase the stock, clumps should be lifted, replanting the individual crowns from 6 inches to 9 inches apart in rows.

Spiræas may now be lifted for forcing purposes, splitting up a portion of the plants and replanting for stock. These like a fairly sandy soil, and it should be liberally dressed with short manure. In planting, sufficient space should be allowed the plants to develop their foliage, without which it is impossible to secure good crowns.

Plants Under Glass.

Bulbs.—The several varieties of Duc van Thol Tulips should now be ready for introducing into heat; and after seeing with what success such subjects are handled by our market-growers, I am led to think that the majority of private gardeners give them too much light and not sufficient heat. The house or frame should be covered either with mats or tiffany till the flowers are well in evidence, when the plants should be given a little more light and air. A temperature of from 60° to 70° is necessary to get them fairly long in the stems, and at no time should they be allowed to become dry at the root. Frequent dampings overhead are essential.

Narcissi Van Sion and Golden Spur may also be brought in, but these will not stand quite so much heat as the Tulips. Other details of cultivation are similar.

Roman Hyacinths are now making a good show, and for use as pot plants they should be carefully staked. The later batches may be brought out of the cold frames, as if left there much longer the blooms will be inclined to damp.

Italian Hyacinths may be brought forward to succeed the Roman Hyacinths. These are particularly useful in January and February, both as pot plants and for cut flowers. The large-flowering varieties of Hyacinths generally are not ready for bringing forward, but the variety La Tour de Auvergne forces well, and I have frequently had it in good condition by Christmas and the New Year. Most of the early bulbs under ashes should be gone over, and those that have rooted well and made 2 inches or 3 inches of top growth may be removed to the cold frame, where they should be covered with mats for a few days to exclude the light, and ample protection must be provided against frost.

Cyclamen that are throwing up flowers must be well looked after in the way of water and manure, as just at this stage there is a great strain on the plants. I noted a very fine batch of these plants at the Paris Show, the foliage covering a space of at least 18 inches, while the flowers were equally good. The grower told me they were only one year old, and were grown in a moderately warm house all through. The difference between these and part of the same batch grown in frames was particularly noticeable; hence the deduction that the plants like a little warmth at the root, especially where early plants are desired.

The Kitchen Garden.

Seakale.—By this date Seakale should force fairly well, and batches should be introduced into the forcing-house or frame at intervals, according to the requirements of the establishment, though where limited quantities are to hand it may be advisable to reserve them somewhat until the supply of outdoor vegetables is less plentiful.

Asparagus.—Further batches should be placed in the frames as required. A good batch put in now should be ready for use about Christmas or the New Year, a time when choice vegetables are in great demand.

Mint should now be introduced into heat, and if this has been grown in boxes as advised in a calendar early in the year, it will be found to force much more quickly than roots freshly lifted from the open ground.

French Beans.—The supply of French Beans is about over in the cold frames, though where the pits are heated the plants may remain for a week or two longer. Batches that are coming along in pots must receive careful attention. They must not be allowed to get dry at the root, and frequent dampings between the pots should arrest any attacks from spider.

The Hardy Fruit Garden.

Transplanting Fruit Trees.—The weather up to now has kept very open, and the major portion of transplanting fruit trees should be completed. Where it is not finished, I would advise pushing the matter forward at once.

Bush Fruits.—Any contemplated additions in this department should also be put in hand. Well-trenched, though not heavily-manured ground is the best for bush fruits, and quite young bushes are preferable to those that may have been cut back three or four times.

The Cordon system of training Red and White Currants and Gooseberries is to be preferred to growing on the bush system. By this method excellent crops are obtained, and the ease with which they can be gathered should be a sufficient recommendation. I quite believe that a heavier crop can be obtained from a given area of ground by planting the rows of trees from 3 feet to 4 feet apart. In the case of Gooseberries for dessert purposes, it is infinitely better, the fruits being of a uniform quality, while those on bush trees are of varying degrees of quality, according to the light and air obtainable. THOMAS STEVENSON.

(Head-gardener to E. Mocatta, Esq.)

Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Bedding Plants.—The stock of these will require careful attention for the next few weeks. Damp is the worst enemy at this season. Geraniums should be kept fairly dry, and, when watered, it ought to be done without a rose, so that no water may touch the foliage.

Flower-Stakes.—The stock of these should be overhauled during bad weather. In many cases where a stake is decayed at the base, a portion can be cut away and the stake repointed, when it will be fit for another class of plant. The ubiquitous Bamboo has well-nigh ousted all others, but those who have them at command should utilise Hazel and Elm suckers. Again, those who can on their own estate procure tops or thinnings of Larch or Spruce will find them, when dressed, very suitable for Dahlia and Hollyhock stakes, and when partially trimmed they are excellent for Sweet Pea clumps.

The Wall Garden.

Building.—The most natural and generally the most successful wall garden is that of the retaining wall style, the mass of soil behind conserving the moisture for the use of the occupants. Build the wall with a good deal of "batter"; in other words, the wall should not be perpendicular, but slope backwards. As the operation proceeds, work in some loamy soil behind and between the stones. Where plants are available, it will be found a good plan to plant them as the work proceeds, a proportion of the available spaces being left for subsequent planting or sowing. Another important point is that the individual stones, when being placed in position, should slope a little backwards, so that the rain falling on them will trickle towards the roots of the plants.

The Pleasure Grounds.

Turfing.—Any necessary turfing should be carried through during fine weather. Rough tufts of grass often assert themselves on lawns, and sometimes there are spots where the rabbits frequently congregate. These should be cut out and some good turf substituted. Again, depressions occur in lawns from time to time. In such cases the turf should be cut into convenient breadths, rolled back, the depression made up with soil not richer than the mass below the lawn, and the turf rolled back and beaten firm and smooth.

Pruning Ornamental Trees.—I am not here referring to a general pruning, but Purple Beeches, Thorns, Laburnums, &c., often lose their contour for lack of a little timely attention in the way of pruning back any over-vigorous branches.

Plants Under Glass.

Plumbago rosea.—This is one of our most useful winter-flowering plants. Those in 5-inch pots will be benefited by bi-weekly mild doses of liquid manure. A temperature of 60° to 65° suits them admirably.

Coleus thyrsoideus.—This plant will soon be showing its bright blue flowers. Meanwhile it should be pretty liberally fed. A warm greenhouse is all it wants in the way of temperature.

Lily of the Valley.—This is such a general favourite and is so easily manipulated that a batch of it should be introduced from time to time. Good retarded crowns are the most satisfactory. Plunge in some light material, which should never be allowed to become dry. Cover the pots with an inverted pot of the same size till the flower-spikes are quite 2 inches high. In a temperature of from 60° to 65° they will be ready in about three weeks.

Fruits Under Glass.

Sowing Early Tomatoes.—Where an early crop is desired, seed should be sown without delay. For this sowing some of the smaller, free-setting varieties, such as Stirling Castle or Lister's Prolific, will be found most suitable.

Starting the Early Peach-House.—Where there are two or more houses, one may now be started. Previous directions having been carried out, all that is required at present is to shut up the house, and, if frost occurs, do not let the night temperature fall below 40°, nor allow it to rise above 45°.

Early Vinery.—As the buds begin to swell, the night temperature may be raised to from 53° to 55°, with a corresponding rise in the day temperature. Spray the rods in the morning and early afternoon.

The Hardy Fruit Garden.

Nailing Wall Trees.—This work can be carried on in frosty weather; but while a touch of frost makes conditions quite comfortable, it is a shame to keep men at this operation under Arctic conditions. Nails will not rust if heated well and then dropped into linseed oil. In training young trees, leading shoots, if over-vigorous, should be bent downwards somewhat to check the flow of sap; while, on the other hand, weakly shoots should be inclined upwards to encourage the more rapid flow of sap.

Heading Back for Grafting.—Where grafting is contemplated on old Apple or Pear trees, they should be headed back with a saw, care being taken not to splinter the stock during the operation. Young stocks should also be headed back with a sharp knife to near the point where it is intended to operate. For dwarfs this should be about nine inches from the ground. In the case of standards, the height at which the stock should be cut depends upon the variety to be worked upon it. If a fairly vigorous variety, cut also at 9 inches from the ground, and form the rest of the stem with the scion.

The Vegetable Garden.

Repairing Box Edgings.—Any blanks in the Box edgings should be made up during fine weather. If there is no spare Box, a stretch should be relaid and the surplus used for "beating up."

Repairing Walks.—Now is the time to attend to this work. Happy are those who have access to good gravel without paying a ransom for it. If the vegetable garden does not occupy a very prominent position and is mostly regarded from the utilitarian point of view, rough ashes will form quite comfortable pathways at little or no cost. A walk when finished should be slightly convex in form. CHARLES COMFORT.

Broomfield Gardens, Davidson's Mains, Midlothian.

THE SILVER-LEAF DISEASE OF FRUIT TREES.

ITS CAUSE AND PREVENTION.

(*Continued from page* 572.)

How the Silvering of Foliage is Caused.—Although in the recognition of silver-leaf there is no difficulty, it should still be explained how the appearance comes about. It is primarily due, Mr. Brooks says, to the accumulation of air, either below the epidermal cells or in the cavities of their walls, the presence of air in these places interfering with the normal reflection of light from the surface of the leaf. The upper epidermis is more or less loose from the palisade cells. There is a marked tendency for the mesophyll cells to fall asunder when sections of the leaf are cut, and so pronounced is this that it is sometimes impossible to obtain sections of silvered leaves which will hold together.

Prevention and Remedy.—In the treatment of plantations it must be remembered that the cause of this disease, like many other fungi, is a wound parasite, *i.e.*, it attacks the tree only through its wounds. It is, therefore, correct to protect the wounds of a healthy tree by means of tar, and this ought not to be neglected. The sanitation of the district by destroying the Stereum itself, upon whatever it may grow, is highly important. Mr. Brooks says: "It cannot be too strongly urged that all tissues upon which the sporophores of this fungus appear in fruit plantations should be destroyed. Experiments indicate that Stereum purpureum taken from material such as a dead Birch stump is equally as effective in causing silver-leaf as Stereum purpureum taken from a Plum tree; hence no quarter should be extended to the fungus in fruit plantations, on whatever substratum it may be found." Experience has shown, Mr. Brooks says, that benefit is derived by cutting out affected branches. The recovery of slightly-infected trees is not infrequent, but no reason has been found to alter his suggestion that Plum trees badly silvered and beginning to die back should be destroyed. Grease-banding, improperly carried out, by application of grease to the bark itself, is believed to favour the development of silver-leaf disease. It causes death of the bark, and therefore provides a place for attack. Grease-banding should always be done by means of bands, so that the grease cannot penetrate to the bark.

Ferrous Sulphate as a Cure.—For the purpose of cure it has been suggested by fruit-growers in the case of Plum trees that ferrous sulphate should be applied to the roots; but this method of treatment was tried by Mr. Spencer Pickering on a considerable scale at the Woburn Experimental Fruit Farm a few years ago, without success. A similar method, by means of heavy dressings of ferrous sulphate with farmyard or artificial manure, has, apparently, been tried with success. The trees showed great improvement, and one became free from disease. Experiments after another manner have been observed by Mr. Brooks, that were carried out by Mr. E. Neaverson near Wisbech. Forty-nine silvered Victoria Plum trees about twenty years of age had a hole drilled in the trunk about three feet from the ground; about an ounce of ferrous sulphate was inserted in each hole, which afterwards was closed with a cork bung. This was done in 1910, and examination two years later showed that of all the trees 25 per cent. had recovered, while 34 per cent. of those only slightly affected had been restored to health. But these results, apparently, must be taken with caution, for though ferrous sulphate is certainly poisonous to the mycelium or spawn, it is doubtful whether its influence would be extensive. Such a remedy, however, is worth trying, for certainly I remember having seen wood sections which had been coloured by the application of the salt of a metal, dissolved in water, to the roots. Someone had conceived the idea of staining the wood in bulk while yet alive, and to a certain extent had succeeded, a blue colour being quite evident. The wood, I believe, was Beech.

Fungus Juice as a Remedy.—An interesting method of cure suggested by Miss Baker in the "Annals of Botany" for 1913 and quoted by Mr. Brooks, also by Professor Houston in The Garden for May 3, page 215, must further be mentioned. It appears that a well-known and not uncommon fungus, Coprinus comatus, which may be found in meadows and gardens in the autumn, has the power of secreting a kind of digestive fluid by which it is itself digested. The fungus, by means of its digestive fluid, is rapidly deliquescent, and where it grew there presently remains nothing but a black fluid resembling ink. It is proposed, then, to use an aqueous extract of the fungus, both internally and externally, for the purpose of destroying the Stereum in the way that the Coprinus itself is destroyed. It has been tried on a Victoria Plum, and two years later the silvered branch became almost free from silver-leaf. The well-known phenomenon of auto or self digestion, shown by the fruit bodies of most species of Coprinus, forms the theoretical basis for this treatment, and it is even suggested that the separation of the cells of the leaf, to which the appearance of silver-leaf is due, may be brought about by an oxydase or enzyme which is secreted by the Stereum. This was suggested by Percival, and, I believe, is suggested by Miss Baker, but Mr. Brooks has not been able to confirm it. Coprinus comatus is easily recognised by its nearly cylindrical cap with peeling skin, which bears a fancied resemblance to a wig on a barber's block. It is edible, but is not so good as Mushroom. Stereum purpureum is a fungus of leathery consistence, projecting in scales, irregular in form, more or less imbricate and reflexed, tomentose or velvety and whitish or pallid above, but zoned with darker marking; smooth, even and of pale clear purple below.

Warning and Conclusion.—In order that too much may not be understood or expected from what I have said about remedies, it cannot be too emphatically stated that no one has produced any reliable evidence of cure. Experiments tried with one or two trees are very far from conclusive, and should not be relied on. Numbers are necessary and "controls" essential. The trees, indeed, sometimes cure themselves, and the factor of self-cure in these cases is quite unknown. Mr. Brooks, in conversation, has kindly informed me that his extensive experiments in the use of ferrous sulphate have this year shown no good result, and this experience, it will be noticed above, agrees with that recorded by Mr. Spencer Pickering. In the case of Miss Baker's experiment, only one tree was tried, and I understand that evidence is not altogether promising. In this warning I desire to be emphatic, because I hear of a fine orchard of Plums now nearly destroyed which the owner might have saved by removing the first badly-infected trees. I have during the past summer visited Cornwall and Scilly, and have everywhere found the disease. It is, indeed, remarkable that although it must always have been extant, little has been heard of it until recent years. For this, however, there are reasons. It has extended, no doubt, with the development of fruit culture, and formerly the loss of a tree would hardly have been remarked. A new tree would be planted and, being sound, it would be some years before it could be attacked. Experiments must continue; but with regard to the use of ferrous sulphate I should like to quote Griffiths' "A Treatise on Manures" (second edition, page 306). The author writes: "Iron sulphate in excess is a plant poison. It is well known that an excess of iron in a soil may cause a soil to become barren." The illustration on page 571 of November 15 issue represents Stereum purpureum, which I learn from Mr. Brooks is the only species that can cause the disease. An ally, S. hirsutum, yellow and not purple below, is therefore not to be feared. It is growing on the stem of an Apple Royal Snow, which had been cut down for grafting upon; hence the disease. This case certainly suggests precautions when grafting is done. In taking the photograph, size has been reduced to slightly less than one-half. For further information, especially of the convincing methods of Mr. Brooks' experiments, I must refer one to his papers in the "Journal of Agricultural Science," Vol. IV., Part 2, October, 1911, and Vol. V., Part 3, June, 1913, page 288, which has been recently published.

Botanic Garden, Cambridge. R. Irwin Lynch.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* Editor *of* The Garden, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

PLANTING SWEET WOODRUFF (*C. M.*).—The Sweet Woodruff (Asperula odorata) is by no means a fastidious subject, and may be planted at any time in open weather. The plant revels in light soils and does not object to heavier soils over chalk, but is less rampant on clay soils. If you secure established examples, there need be little fear of their not doing well; it is different, however, when only single-rooted shoots are planted. You do not say the purpose for which you intend the plants, but we would warn you not to plant on the rockery where choice plants abound. They are apt to get into every crevice and presently become a nuisance.

HERBACEOUS BORDER PLANTS (*G. B.*).—You cannot do better, we think, than arrange the border in groups. Starting at the front you might have Aster sub-cæruleus; alpine Phloxes, as setacea, Vivid, Nelsonii, atropurpurea, Model and amœna; the newer Mossy Saxifragas, as Clibrani, bathoniensis, sanguinea superba and Miss Willmott: Arnebia echioides, Polygonum affine, Orobus vernus, Adonis vernalis, Lychnis Viscaria splendens plena, Lithospermum prostratum, Iris pumila cærulea, Iberis sempervirens, Gentiana acaulis, Aubrietias and the like. These would look best if set among sandstone rocks in yard wide masses. Behind these another informal set of groups might be made up of Inula glandulosa, Helenium pumilum, Heuchera sanguinea and its many varieties of hybrids, Phlox canadensis, Geum Mrs. Bradshaw, Potentilla Gibson's Scarlet, Aster Amellus, A. A. Riverslea, single and double Pyrethrums, Erigeron speciosus superbus, Delphinium Belladonna, Campanula persicifolia Moerheimi, C. carpatica Riverslea, C. van Houttei, Aster acris, Aquilegia chrysantha, Thalictrum aquilegifolium and T. a. atropurpureum; and in the back row herbaceous Pæonies, Phloxes white and scarlet, Asters

ericoides Desire, Feltham Blue, Beauty of Colwall and cordifolius Ideal, Helianthus multiflorus, H. m. flore pleno, Iris pallida dalmatica and such Delphiniums as King of Delphiniums, Rev. E. Lascelles, Amos Perry, La France and Duchess of Connaught. These should have not less than three, and better if five, to each group or colony. The wider end might have a big flanking group of the white and pink Japanese Anemones stretching halfway across the border, and near to Aster Beauty of Colwall in like proportion. You would obtain many good hints about planting and grouping were you to consult "The Hardy Flower Book," by E. H. Jenkins, price 2s. 10d. post free from our Publishing Department. It is rich in lists and suggestions.

TREES AND SHRUBS.

PRUNING CEANOTHUS (*A. R.*).—Your Ceanothus Gloire de Versailles may be left unpruned until February, when you may cut the present year's shoots back about halfway. This pruning should be repeated annually, but if a number of very weak shoots are formed, some should be cut clean out and others pruned to within a bud or two of the base. There is no reason why you should not save seed of your Primula, providing you resort to hand pollination. Place the plant in the sunniest position you can.

THE GREENHOUSE.

CARNATION RUST (*Leicester*).—The Carnation is badly attacked by the Carnation rust. The main thing to do is to keep the atmosphere dry and buoyant, and the temperature sufficiently high—this does not mean avoid watering the plants. Pick off the affected foliage and burn it, and spray the plants with a rose red solution of potassium sulphide.

BEGONIA LEAVES TURNING BROWN (*F. C., Suffolk*).—The Begonias are badly attacked by the leaf celworm, Aphelenchus olesistus. This pest attacks many kinds of greenhouse plants, including Ferns, and usually dipping the plants in a wash containing nicotine is beneficial; spraying with the same might have a good effect. Fumigation is, in all probability, useless. The pest gains entrance into the plants through the stomata and comes from the soil. It is only when the plants are kept moist that the pest can travel to the stomal openings. It would be well another year to discard the whole of the soil in which the plants are growing, and to clean the pots thoroughly before beginning to get a new stock. The stock must, of course, be a clean one, and it should be remembered that the dust on the potting-bench might be a source of infection.

FRUIT GARDEN.

PEACH TREE UNSATISFACTORY (*C. C.*).—The variety is subject to this complaint; but if certain cultural precautions are taken, among them those which you suggest, there is no reason why the difficulty should not be got over. Most Peach-growers make a mistake in keeping their trees too dry at the roots while the trees are dormant. Give your tree a good soaking of weak manure-water at once, and again at intervals of three weeks or so through the winter and spring. Keep your trees as cool as possible, with plenty of air on in favourable weather all through the winter. Fertilise the blossom at midday on fine days with the stronger pollen of other varieties in bloom at the same time. Give the tree a top-dressing of the following compost, 4 inches deep, after exposing the surface roots first: To one barrow-load of fibrous loam add half a gallon of bone-meal, the same of kainit, a gallon of brick-ends, broken small, the same of old mortar rubble, also broken small, and a gallon of lime. Mix well together and tread firmly down when applying.

HOW TO PLANT A VINE (*W. J. N.*).—Any time next month will be a good time to plant your Vine. The size of your border should be 8 feet by 4 feet, by 3 feet deep. A border of this size will be large enough for the first three years, after which time 2 feet should be added to its width and length. For drainage you must lay down all over the bottom of the border a layer of broken brick-ends to the depth of 5 inches. A drain (3-inch) must also be laid down at the bottom side of the border for its whole length and carried out to an outlet, where a fall of at least 5 inches can be secured, for surplus water to pass away from the border (a slight fall must be given to the bottom of the border towards the drain). Place turves of fibrous loam, grass side downwards (with the grass cut off), over the drainage close together and tread hard down. On the top of this fill the border with the following soil compost: To one barrow-load of turfy fibrous loam add a gallon of half-inch bones, one quart of bone-meal, one peck of brick-ends, broken small, the same quantity of old mortar rubble, also broken small, and one peck of lime. Mix well together before placing it in the border. In planting, turn the Vine out of its pot, shake away the soil from among its roots, cut off about an inch of the tip end of the roots, spread out the roots evenly about ten inches below the surface of the border, and cover over with soil, pressing it down firmly. Plant on a dry day, and the soil should be fairly dry at planting-time. Water the roots as soon as planting is finished, and then cover over the surface of the border with straw to the depth of 5 inches. Leave the straw in until the last week in March; then remove it and replace with a top-dressing of well-decayed manure, 4 inches deep. After planting, cut the young Vine back to within three buds of its base. Get a copy of "Fruit Growing for Beginners," price 1s. 3d. post free from our Publishing Department.

KITCHEN GARDEN.

INJURY TO CELERY (*E. L. B.*).—The Celery is attacked by the fungus Septoria Petroselini Apii, and very badly. It is now too late to do much in the way of checking it, except to remove the affected foliage as completely as possible (no good can come from allowing it to remain). The disease is often carried in the seed, and we recommend the spraying of the young plants from early in June, or even in mid-May, onwards with Bordeaux mixture as a preventive measure.

MISCELLANEOUS.

CLIMBING ROSES TO GROW FREELY (*F. W.*).—Climbing Caroline Testout would be a good pink variety, and Reine Olga de Wurtemburg a good red.

VIOLETS AND RED SPIDER (*Constant Reader*).—The Violet leaves are badly attacked by red spider. The plants are probably rather dry at the root, and spraying with water, so long as the under side of the leaves is sprayed, will do much to rid the plants of the insects. Spraying with potassium sulphide, 1oz. to three gallons of water, is also a useful measure.

NAMES OF PLANTS.—*Berkshire.*—Hæmanthus Baurii. ——*Rushetts.*—1, Abelia grandiflora; 2, Psoralea bituminosa; 3, Lactuca chondrilliflora; 4, Helichrysum serotinum. —— *P. C.*—1, Chrysanthemum segetum; 2, Lychnis coronaria; 3, Tradescantia crassifolia.——*M. W. G.*—1, Centaurea Cineraria; 2, Spiræa lindleyana; 3, Dactylis glomerata variegata probably, but cannot tell without flowers.

NAMES OF FRUIT.—*A. R. S.*—10, 14 and 15, Blenheim Orange; 11, Tower of Glamis; 12, Round Winter Nonsuch; 13, Alfriston; 15, Sandringham; 17, Pearson's Plate; 18, Brandy Apple; 20, Wealthy; 21, Stamford Pippin; 22, Gloria Mundi.——*T. J. C.*—Beurré d'Anjou; season, November and December.——*Gosden.*—1, Norfolk Beefing 2, Wellington; 3, Ribston Pippin; 4, Bess Pool; 5, Ashmead's Kernel; 6 and 9, Annie Elizabeth; 7, Colonel Vaughan; 8, Bramley's Seedling.

SOCIETIES.

AUTUMN SHOW AT HERTFORD.

THE twenty-second annual show of Chrysanthemums, autumn flowers, fruit and vegetables under the auspices of the Hertford Horticultural Society was held in the Corn Exchange and Market on November 5 and 6. The opening ceremony was performed by Lady Longmore. The society has established such a high standard of merit at its previous shows that it is very difficult to maintain it, and certainly more difficult to surpass; but it is gratifying to know that this year's show was well up to any of its predecessors in point of excellence. The silver cup given by Mr. R. W. Partridge of Hertingfordbury Park for the best group of Chrysanthemums was won by Mr. W. Stephenson, gardener to Mr. Ernest Pearson of Brickendonbury, and as he has now won the trophy three times, it becomes his own property. There were some very fine blooms in his group, the chief of which were Gilbert Drabble, Rose Bouquet, Mrs. R. Luxford, Mrs. R. C. Pullen, Evelyn Mason, Marjory Lloyd, W. Buckingham and Sylvia Slade. In the class for groups of miscellaneous plants there were only two competitors, although Mr. H. Smith, gardener to Mr. Brodie Henderson, generously stood down to give other exhibitors a chance, as he had won the first prize four years in succession. The first prize was taken by Mr. O. Catling, gardener to Mr. H. W. Clinton Baker of Bayfordbury, with a very tasteful arrangement of Cattleyas, Begonia Gloire de Lorraine, Bouvardias, Salvias, Crotons and Palms. Mr. W. Stephenson, gardener to Mr. Ernest Pearson of Brickendonbury, was second; but, though he had some good quality material, there was too much of it. The class for twenty-four cut Chrysanthemum blooms was a very strong one. Premier honours were taken by Mr. A. Haynes, gardener to Mrs. Browning of Bramfield House, who has obtained first place in this class five times during the last seven years. His chief blooms were Miss A. E. Roope, a brilliant buttercup yellow (which secured him the prize for the best bloom in the show), F. S. Vallis, Hon. Mrs. Lopes, William Turner and Mrs. G. E. Whitty. The show was admirably managed by the members of the committee of the society, and the new secretary, Mr. W. Reynolds, is to be congratulated upon the ready manner in which he grasped his duties and performed them so ably.

LIVERPOOL HORTICULTURAL ASSOCIATION.

THIS association may be justly proud of the thirty-fourth autumn exhibition, for not only did it prove the most extensive, at any rate, of recent years, but the quality was distinctly above the average. The show was held in the well-lighted Corn Exchange on the 12th and 13th inst., and the entries were above the normal. The cut flowers still occupy the premier position in popular favour, as was clearly seen by the crowd that hovered round the principal class of thirty-six blooms, eighteen incurved and eighteen Japanese, in which last year's winner upheld his high position, and so secures the coveted silver challenge vase as his own personal property. Four entries were made and four prizes were awarded, as follows: Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart.; Mr. G. Haigh, gardener to Sir W. H. Tate, Bart.; Mr. H. Osborne, gardener to Thomas Woodsend, Esq.; and Mr. John George, gardener to Thomas Hinshaw, Esq. The first prize set was well in advance in size, but the honour of colour fell to the second prize lot. The principal flowers in the winning stand were: Incurved—G. F. Evans (which secured the National Chrysanthemum Society's certificate as the best bloom in this section of the show), Embleme Poitevine, Godfrey's Eclipse, Doris Rayner, Pantia Ralli, Mrs. P. Wiseman and others; Japanese—W. Turner (which was awarded the National Chrysanthemum Society's certificate as the best incurved in the exhibition), W. Mease, F. S. Vallis, Robert Pulling, President Viger, Mrs. G. Drabble, Mrs. A. E. Roope, Fred Green, Alice Lemon and Francis Jolliffe. Other classes of these two sections were well filled, the leading winners being, in addition to those already named, Mr. J. Young, gardener to W. E. Willink, Esq.; Mr. J. Copple, gardener to H. Belk, Esq., who won three prizes; Mr. J. Williams, gardener to C. J. Procter, Esq.; and Miss Newsham.

Single Chrysanthemums found great favour, and undoubtedly would have held their own in any part of the country. The most prominent exhibitors were: Mr. P. Caunce, gardener to G. Nicholson, Esq., and Mr. L. Thomson, an enthusiastic amateur. The names of Mr. Caunce's half-dozen were Mrs. William Street, Miss Annie Street, Edith Pagram, Miss K. Wells, Ruby and Mrs. H. Herbert. These were fully 6 inches in diameter, and lovely in colour.

Turning to the plants, which to many are more delightful than the giants on the boards, for Liverpool growers are noted for their success in trained plants, Mr. W. Wilson, gardener to W. Cunningham, Esq., and Mr. T. Hitchman, gardener to Arthur Earle, Esq., are past-masters in this line. Miss Annie Shaw, a single-flowered variety, and William, both staged by Mr. Wilson, were wonderful creations. Mr. F. C. Keightley, gardener to Mrs. Duncan, is an excellent grower of the more natural grown or staked plants. In the miscellaneous plants, Mr. Hurd, gardener to L. G. Pilkington, Esq., and Mr. H. Osborne were to the fore in the aristocratic domain of Orchid culture, the latter staging a superb Cattleya Portia with eight spikes and thirty-seven blooms.

In the fruit section, Mr. T. Elsworthy, gardener to W. E. Gladstone, Esq., had the finest collection, and Mr. J. Wright, gardener to E. Lord, Esq., excelled in four bunches of Grapes, while Mr. W. Wilson claimed two firsts for pairs of bunches, and Mr. W. H. Faulkner, gardener to A. P. Eccles, Esq., was first in one class. Messrs. John Lee, J. Bott, F. C. Keightley, J. Macfarlane and W. Mackerall divided the prizes in the Apple and Pear classes.

The trade exhibits deserve more than a passing notice; but space is the only excuse for this brief reference. Gold medals were awarded to Messrs. Stuart Low and Co., Messrs. Fishlock Brothers and Messrs. Mansell and Hatcher. The exhibits may be briefly summarised as follows: Messrs. Mansell and Hatcher, the Liverpool Orchid Company, J. Le Doux, Esq., and Messrs. Stuart Low and Co., Orchids; Messrs. Fishlock Brothers, floral designs; Messrs. Stuart Low and Co., Messrs. Young and Co., and Mr. C. A. Young, Carnations; Messrs. R. P. Ker and Son, Cyclamen; Messrs. W. Wells and Co., Messrs. Dicksons, Messrs. Cilbrans and Messrs. W. Rowlands and Co., Chrysanthemums; Mr. H. Middlehurst, vegetables; and Messrs. Thomas Davies and Co., winter-flowering Heaths. Mr. A. Calderbank received a certificate of merit for single Chrysanthemum Dr. Hodgson, and Messrs. Stuart Low and Co. for Carnation Gorgeous.

The committee deserve every credit for their efforts to please both the exhibitor and visitor.

BOURNEMOUTH GARDENERS' ASSOCIATION.

ON Tuesday, November 18, a very able and interesting lecture was given by Mr. G. H. Heath of Glenfallock Gardens on "Zonal Pelargoniums for Summer and Winter Flowering." Mr. Heath grows these plants remarkably well, and has won the principal prize for them in the classes at the Bournemouth shows for eight years consecutively in very keen competition. He recommends cultivators to propagate cuttings for summer flowering in July and for winter flowering in August. As a general compost he advises leaf-soil one part, turfy loam three parts, with a small quantity of bone-meal and a sprinkling of old lime. Firm potting was essential to success. When grown for exhibition, the plants should be topped soon after they were first potted, and again when finally potted. A small quantity of sulphate of ammonia intensified the colour of the flowers. Nitrogen caused the leaves to grow very large, but did not induce flowers to form. He relied on potash and phosphates. Many questions were asked and ably answered, the discussion being free and instructive.

In the "Points" Competition Mr. Heath had three fine vases of single-flowered Zonals, namely, Phyllis, Princess of Wales and Sir T. Hanbury. Mr. Smith, gardener to the Dowager Lady de Tabley, staged Cypripediums; and Mr. Pearce, gardener to Mrs. Ormond, Crotons, Ferns, and a fine Pandanus Veitchii. Messrs. George Bunyard and Co., Limited, Maidstone, sent twenty-four dishes of beautiful Apples. The following were the varieties: Lane's Prince Albert, Bramley's Seedling, Gascoyne's Scarlet Seedling, Hambling's Seedling, Newton Wonder, Norfolk Beauty, Lord Derby, Blenheim Orange, Allington Pippin, King of the Pippins, Mère du Ménage, Sanspareil, Cox's Orange Pippin, Mother, Bismarck, King Edward VII., Tower of Glamis, Waltham Abbey Seedling, Peasgood's Nonsuch, Baumann's Red Reinette, Alfriston, Royal Jubilee, King of Tompkins' County, and Stirling Castle. At the close of the lecture the Apples were sold to the members, the money being given to the Royal Gardeners' Orphan Fund. Messrs. Bunyard, the lecturer, and Mr. Garner, who presided, were accorded hearty votes of thanks

THE GARDEN.

No. 2194.—Vol. LXXVII. December 6, 1913.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in The Garden *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Official Guide at Kew.—As we announced some time ago, an official guide to conduct parties of visitors round the famous gardens at Kew was appointed. The charges for the services rendered by the guide have now been reduced from 2s. 6d. to 6d. each person in the morning, and from 1s. to 3d. during the afternoon. Full particulars concerning the guide can be obtained on application to the Director, Royal Gardens, Kew

The Flagstaff at Kew.—The wood of the Douglas spar has decayed so much during the last few years that it has been found necessary to take it down for repairs. This was safely accomplished on Monday, November 24. The flagstaff, which is a splendid example of the Douglas Fir, Pseudotsuga Douglasii, was presented to the gardens by Mr. Edward Stamp in 1861. It was obtained from British Columbia. The pole is 150 feet high and 20 inches in diameter.

Banding Laburnums.—Laburnums have a habit of splitting at the lowest fork in the tree. Where signs of this are seen, the tree should have an iron band placed round it just below the fork. The two ends of the band should be turned back to a right angle, each projecting end having a hole pierced through it, one of which should be square. Through these a bolt with a square shoulder and fitted with a thread and nut should be thrust, and the nut should then be screwed up till the band clasps the trunk firmly. Give the band two coats of olive green paint.

Pruning Gooseberry and Currant Bushes.—In many parts of the country bullfinches and tits are very destructive to the buds of Gooseberries and Red and White Currants, during the winter and early spring. If, after the pruning is done, the bushes are given a good syringing of petroleum emulsion to make the buds distasteful, the work may be done now with safety and thus save time in the spring.

Pruning Large Trees.—Where cutting or pruning is required among large trees, the work should not be delayed, for it may be noticed that the sap of many of them, particularly those with large leaves, such as Horse Chestnut, Walnuts and Sycamores, commences to flow early in the New Year. Any cutting that is required to members of the conifer family should also be done now, and not left till the spring.

Wart Disease of Potatoes in Ayrshire.—The Board of Agriculture and Fisheries desire to inform all Potato growers and dealers that in consequence of an outbreak of wart disease in Potatoes in North Ayrshire they have passed an Order prohibiting the introduction of Potatoes from that district into England and Wales. All persons who have already received seed Potatoes from that district should carefully examine the tubers, and if any sign of disease is apparent, the Board should be informed. Dealers and growers are reminded that it is illegal to plant or sell for planting any Potatoes attacked by this disease, under a penalty of ten pounds.

Rose Hedges.—These are suitable for almost any part of the garden where a hedge or screen is wanted, but they are specially adapted for enclosing or dividing the Rose garden. At least four classes of Roses are suitable for this purpose, viz., Chinas, Austrian Briars, rugosas and Penzance Briars. For a dwarf hedge the Chinas, especially the Old Blush or Monthly Rose, Mme. Bosanquet, Fellenberg and Laurette Messimy, are suitable. For hedges of moderate height the Austrian Copper and Austrian Yellow are good; while the varieties of Rosa rugosa and of the Penzance Briar will be found the most suitable for taller hedges. In addition to their flowers, the rugosas and the Briars have their decorative value enhanced by their bright red heps.

The Winter Jessamine.—The mild weather this year has been very favourable for the development of the flowers on this delightful climber. Flowering in midwinter, the blooms are liable to damage by frost, yet Jasminum nudicaule is worth a place in every garden, on a fence or wall, where it is able to make such a pleasing display with its thousands of bright yellow blossoms, as is the case this year. The aspect of the fence or wall against which the Winter Jessamine is planted appears to make no difference to the free-flowering qualities of the plant. The specimen which suggested this note is on a west wall. The sprays are delightful to cut for indoor decoration, being particularly effective arranged with sprays of Ivy in small vases on the dining-room table.

A Good Ash Tree for the Lawn.—Fraxinus Mariesii is a very suitable tree for planting as a lawn specimen, for it is of considerable decorative merit and rare. It belongs to the group of the genus which is characterised by showy flowers, and is closely related to the Manna Ash, F. Ornus, a European species which is fairly common in the British Isles. F. Mariesii is a native of China, and was discovered by Maries in the Lushan Mountains near Kiukiang. He sent seeds to Messrs. Veitch in 1879, and the first plant flowered in the Coombe Wood Nursery in 1882. It grows into a small, round-headed tree with purplish branchlets. The pinnate leaves are made up of five oval, acuminate or acute leaflets, which are up to 3 inches in length, but show some considerable variation in size. The creamy white flowers appear in large, upright panicles during June or early July, and are succeeded by the familiar winged seeds peculiar to the Ash. In this case they are purplish in colour. Like other Ashes, it succeeds best in good, loamy soil of a moist, yet well-drained character. Growth is rather slow, and for that reason it is well fitted for a position where space is somewhat restricted

CORRESPONDENCE.

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

Pears Flowering at the End of November.—At the present time there are three Pear trees (variety, Beurré de Amanlis) in full blossom here, which shows the wonderfully mild autumn we have experienced. I enclose a photograph of one of the trees, also a branch of the blossom.—D. WATT, *Vice-regal Lodge Gardens, Dublin.* [Unfortunately, the photograph was not quite sharp enough for reproduction.—ED.]

Perennial Aster Perle Rose.—In general appearance this variety resembles the blue Italian Starwort (Aster Amellus bessarabicus), but the flowers are of a beautiful rosy pink colour. It is unquestionably a worthy subject for the rock garden in autumn, although it appears to be very little known, for I have looked in vain for a mention of it in numerous catalogues. The illustration depicts this variety as seen in October last in a shady corner of the rock garden at Copped Hall, Epping. Here it is used with good effect under the shade of trees and in association with hardy Ferns, where few other flowering plants could be expected to thrive.—C. Q.

Gentiana verna.—Mr. Malby's note, page 545, issue November 1, was of particular interest to me, for the value of glass covering for Gentiana verna was proved here last winter, a much better display of flowers being produced on protected plants than on those left unprotected. Mr. Arnott's method of "mulching" with small stones or similar material has been found of great advantage, especially in cold and low-lying districts. Such treatment, given to several of the weaker alpines here, has produced good results. For myself I feel sure that, provided with a fairly porous compost, a sunny position and protection from winter rains, G. verna will give but little more trouble than its more robust companion G. acaulis. In addition to G. verna, we make it a rule to protect several of the choicer alpines which are at all weakly by a glass covering, and in all cases it has proved beneficial. H. TURNER, *Serlby Gardens, York.*

Cordyline australis.—Referring to a note on page 570 of your issue of THE GARDEN for November 15 on the above Club Palm, it may interest "T. C. F. M." to know that this plant succeeds remarkably well in the open garden in the South-West of Scotland; in fact, we look upon this as the hardiest of the many tender plants growing in the open here. There are plants in all sizes, from a two year old seedling to the parent plant over twenty feet high. The older plants receive no protection during the winter, and on various occasions they have been exposed to 18° and 20° of frost (ground temperature), but I have never known even a young plant to be killed. The soil here is a deep black loam, with good drainage, which seems to suit them very well. Young plants from 3 feet to 8 feet will put on 2 feet of growth in a season. They also seem well adapted to plant in a windy situation; at least, we have never had one blown over in this wind-swept district.—GALAWA.

Dahlias at Chrysanthemum Shows.—After twenty-five years' experience serving on councils and committees of horticultural societies, I quite realise the difficulties that beset many such councils in providing classes that will be an additional attraction to cultivators and the public. Orchids, Carnations, Zonal Pelargoniums and winter-flowering Begonias find a place in the schedules of the majority of shows, in addition, of course, to the Chrysanthemums, fruits and vegetables. The last week in October and the first week in November is rather late in the season for staging Dahlias, but there have been thousands of fine flowers as late this autumn, and I feel sure that if classes are provided for these flowers in future years, the latter will be seen well staged. Cultivators will find a means of protecting their blooms in adverse weather. To begin with, societies might provide an open class for a display of Dahlias in a given space; other open classes may be listed for the Cactus, single and Pompon sections. The local classes must also be remembered. I think the inclusion of Dahlias would prove a great attraction and win a lot of extra support for our many Chrysanthemum shows. Perhaps some of our expert growers will give their opinion.—GEORGE GARNER.

ASTER ROSE PERLE IN THE GARDENS AT COPPED HALL, EPPING.

Disbudded *v.* Undisbudded Roses.—What a difference there is in blooms of nearly all Roses that are the result of disbudding directly the buds are large enough to handle, compared with the flowers of the same variety from plants that are allowed to develop all their buds into blooms in clusters. Flowers from the latter method are often not discernible as being typical of certain sorts. For instance, note the difference in blooms of Edward Mawley, Mrs. Cornwallis-West, Mrs. E. Powell, or Gloire de Chedane Guinoisseau. In size of petal, richness of colour, or general form there is no comparison. For purely garden decoration the undisbudded plants may be interesting as giving a mass of flower, but where Roses are prized for cutting and the individual merits of the different varieties are to be maintained, then disbudding is an advantage. I do not mean to reduce the number of shoots upon a plant to obtain one or two huge blooms for exhibition, but I prefer to allow all shoots to grow and confine the buds to one on each shoot. By this method stouter, stiff shoots are obtained, with a representative bloom of each variety well supported with foliage, which for vase decoration plays an important part, as no other foliage tends to show off Rose blooms so well as their own.—E. M.

Culinary and Dessert Apples for Suburban Gardens.—In choosing varieties of Apples, or, indeed, any other fruits, one of the chief objects should be to secure those varieties which will prolong the season. In large gardens this is usually so ordered, though now and again one comes across an establishment where the successional arrangement might with advantage be improved upon. But I write for the smaller garden, of one to three acres, say, of which there are an ever-increasing number springing up on the outskirts of this and every other city. The methods of preparing the positions and planting the trees are so frequently touched upon by authoritative writers that I pass on at once to enumerate a few reliable sorts for the twofold purposes, culinary and dessert. Early Victoria, Potts' Seedling, Stirling Castle, Warner's King and Bramley's Seedling will carry the kitchen supply in the order given to Christmas, after which Beauty of Kent and Lane's Prince Albert would make provision until the end of March—certainly a very satisfactory period for such an acreage of ground. For a supply of dessert or table fruits extending over a similar period, we have found the following highly serviceable: Beauty of Bath or Irish Peach, James Grieve, Cox's Orange Pippin, and Lord Hindlip or King's Acre Pippin. It will be found much more advantageous to grow several trees of a limited number of varieties than a host of sorts all ripening one upon the other.—C. TURNER, *Ken View Garden, Highgate, N.*

Rose Mme. Abel Chatenay.—For several years I have had a very strong liking for this Rose. As a town garden variety it is a great success. It possesses so many good points. In my garden it has continued to flower since last June, and now bears clean buds. While some Roses near it are mildewed, this one is free. The colour is so very pleasing and effective when the blooms are arranged in baskets or vases. Quite small buds, if cut and placed in water in vases in the dwelling-house, open fully, retain their colour and remain fresh for nearly a week. All who grow this variety appreciate its many good points. Those who do not possess any plants should add several to their collection this autumn.—AVON.

Early Peas in Pots and Boxes.—A sowing of early Peas made now in turf and placed on a shelf near the glass will be just right for potting up in the New Year in the Chrysanthemum pots. Suitable varieties are numerous, but we find that Sutton's Excelsior and World's Record surpass anything in Peas we have ever tried. Both finish with full pods. The former is dwarf and the latter medium in height, and both suit various houses. World's Record is also suitable for borders and raised beds. Our soil being very heavy, we pass it through a coarse sieve, mix some approved fertiliser with it, crock the pots in the usual way, and three parts fill them with the soil and firm down. Place the turf and Peas on this, stake them with a short stick, and place them in a cool house near the glass. As the days lengthen they will grow faster, and need a house to themselves if a quantity is required. Repeat the sowing every fourteen days for a continual supply. Continue potting as above. Both the sowings and pots have given as good results as those grown outside, and the seeds germinated without a break in a house 30 yards long.—T. G. J., *Shaftesbury, Dorset.*

The Rock Garden in Autumn and Winter.—At all times of the year the rock garden can be made to possess some charm and interest, although I must admit that in late summer, autumn and winter the beauty is somewhat limited as far as flowering plants are concerned. Nevertheless, much can be done to increase the attractiveness at that time, when flowers are not so plentiful, by the more liberal use of many of those plants with ornamental foliage. The beautiful silvery appearance of many of the Achilleas, Ageratums, Artemisias and similar plants, with the beautiful tints obtained from many of the Sedums and Sempervivums, which these plants give us from late summer onwards, from beautiful crimson, pink, yellow, and many shades of greens, all blend in harmony with their surroundings, whatever they may be. Yellow is perhaps a limited colour in foliage, although there are a few yellow-foliaged varieties of plants, such as the golden Sagina, the yellow variegated Arabis, the golden variety of Sedum acre and a few others, which are worthy of a place. By using such plants more freely than is generally the case for the value of their foliage, we may greatly assist to link together with touches of beauty one season of flower to another.—F. PRESTON.

FORTHCOMING EVENTS.

December 8.—United Horticultural Provident and Benefit Society's Committee Meeting.

December 10.—East Anglian Horticultural Club's Meeting. North of England Horticultural Society's Meeting and Lecture at Leeds. National Chrysanthemum Society's Exhibition at Essex Hall, Strand. Conference in the evening.

GARDENING ACROSTICS.

As announced in our issue for last week, we are publishing eight gardening acrostics, to be divided into two sets of four each. Each light correctly guessed will count one, and also each "first" and each "last." Thus, supposing the whole is China (firsts), Aster (lasts), the full marks will be seven—one for China, one for Aster, and one for each of the five lights C . . . A, H . . . S, I . . . T, N . . . E and A . . . R. Hence, suppose a competitor got everything right but the light I . . . T, he would count six, and it would not matter if he attempted to solve that particular light or not.

Those entering for the acrostics must observe the following conditions:

(1) Solutions must be addressed to The Editor at 20, Tavistock Street, Covent Garden, W.C., and bear the word "Acrostic" in the top left-hand corner of the envelope.

(2) If a *nom de plume* is used, competitors must at the same time enclose their own name and address, not, of course, for publication.

MR. F. JENNINGS, THE HEAD-GARDENER AT CHATSWORTH. (*See page* 610.)

(3) Solutions must reach the Editor within a week of the date of issue in which the acrostic appears. Thus, solutions of Acrostic No. 1 published in THE GARDEN to-day must arrive at the office before or by the first post on December 13.

(4) A list of those who have sent in solutions, with the number of marks that each one has obtained, will be published in the next issue. Thus, that of those who compete in Acrostic No. 1 will appear in the issue dated December 20.

(5) We propose to divide the series of eight into two of four each, and to award two prizes at the end of the fourth, and two more at the end of the eighth and last. The first prize in each case will be two guineas, or books of that value, and the second, one guinea. In order to give as many as possible a chance of a prize, the winner or winners of the first prize in the first four will be penalised twelve points, and, similarly, the winner or winners of the second, eight points if they enter for the second four.

(6) In case of any dispute, the Editor's decision must be accepted as final.

(7) No solution can be accepted as correct unless it is the one that the framer of the acrostic has sent us as his solution, and which we shall publish in due course. It is impossible for it to be otherwise, as it would lead to much confusion, and it would place upon us a responsibility which we could not assume.

(8) In the event of two or more competitors obtaining an equal number of marks for first prize, the first and second prizes will be added together and divided among them.

DOUBLE ACROSTIC No. 1.

Firsts—A Vine.

Lasts—A most useful part of my "firsts."

1. 60 "3 inch."
2. A vegetable—purple when eaten in ancient Rome; green or blanched when consumed in modern London.
3. An almost hardy bulb with a flower not unlike what a blue Freesia might be.
4. The author of a beautiful gardening book. "Nothing approaches it for instructiveness in herbaceous plants till we get to Robinson's 'English Flower Garden.'"
5. Our greatest and oldest living botanist.
6. A Georgian Tulip. One of the best doers of all the large-flowered, brilliant-hued species.
7. A dainty pea of Tusser's day.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than the first post on Saturday, December 13. Mark the envelope "Acrostic" in the top left-hand corner.

ROCK AND WATER GARDEN.

THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

(*Continued from page* 596.)

A THIRD site that one is sometimes called on to consider is a dry hollow in a hillside. Earth, gravel or other material has been removed for use elsewhere, and left more or less abrupt banks; it is a veritable sun-trap, and sheltered withal. The introduction of water may, or may not, be out of the question, and if it is introduced will somewhat effect a modification in the design. Here we will consider it without water, as it may be convenient at a later stage to point out how the scheme should be altered to admit of its use. This is a spot where the sun-loving alpines will revel, while, by judicious arrangement, sufficient shady positions can be introduced to permit of the successful culture of many of those that prefer cooler conditions. The best method of dealing with this site will be, I think, to treat it as a natural cliff formation, from which broken boulders and crumbling fragments have become detached and fallen in all directions. I have already described the processes by which in Nature the crevices between these fallen masses become filled with particles of earth that are washed down from above, and by the growth and decay of the lower vegetable forms, thus rendering them suitable receptacles for the culture of alpine plants, which, indeed, find their natural homes prepared by the same processes. Paths and steps will be required, but should be as rudimentary as is consistent with comfortable

SKETCH F, SHOWING SECTIONAL TREATMENT OF SITE.

transit; in some cases they may be barely possible, although every foothold should be made absolutely secure. Sketch F shows in section the treatment of this site.

If time and space permitted, I could go on multiplying descriptions of varying sites; but there must be an end to all things, and I think I have said enough to illustrate the fact that every position demands separate consideration, and, generally speaking, possesses in itself a potential design all its own. There are, however, certain sites much more suitable than others, and some, indeed, that should be avoided. If the intention (and I want to lay particular stress on this distinction) be purely for the cultivation of a collection of alpines, then the question of design hardly enters into the matter. If the rock is to be used primarily for the production of picturesque effects, then it should be used in positions that offer some natural advantages and are removed somewhat from the more formal portions of the garden.

There are some people who seem to think that a successful rock garden can be made in the corner formed by two walls in the kitchen garden; others, that an admirably suitable place is under trees "where nothing else will grow, you know"; and yet others who imagine that by making a little hole in an odd corner, filling it with water and surrounding it with fragments of stone selected from the *débris* of some decayed building, they are creating a rock garden. Broadly speaking, the most favourable positions are light, airy, open spots on sloping ground. The only trees permissible are such as Abies, Pines, and others that associate naturally with bold masses of rock, and these only when the contour is rugged and weather-beaten in appearance and when they are some distance removed from the actual positions in which it is desired to cultivate alpine plants. Silver Birches are permissible, and, where the work is bold and free enough in character, even desirable; but they must be in such positions that they will not overshadow the other inhabitants or send their fibrous roots to rob their weaker associates of sustenance.

Next week I hope to deal with the selection and arrangement of the stone, two items that are of considerable importance in the construction of rock gardens.

Colchester. GEORGE DILLISTONE.

(*To be continued.*)

FLOWER GARDEN.

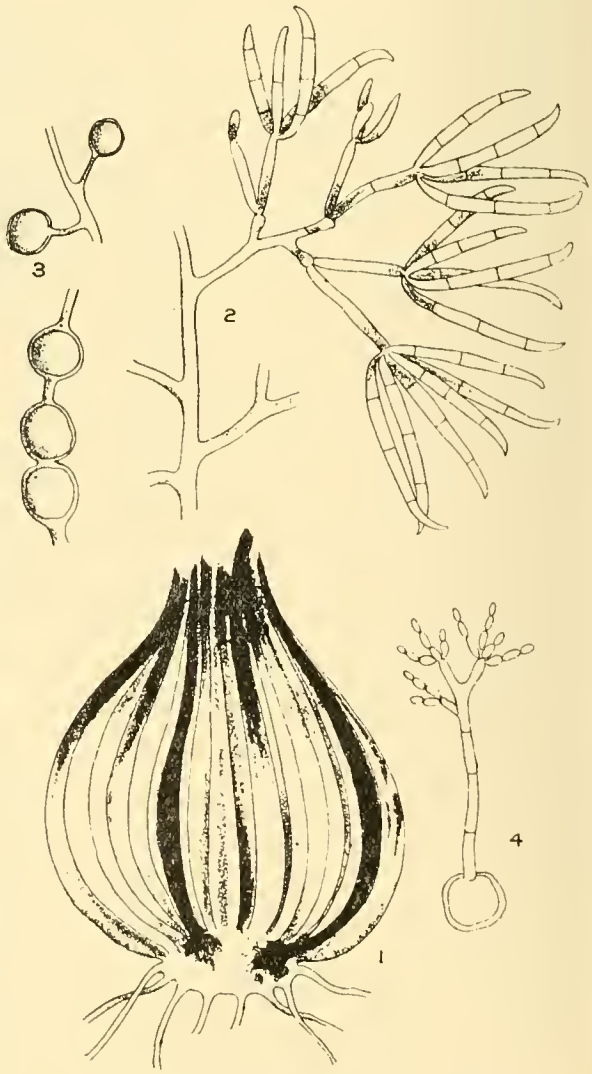
THE NAMING OF TULIPS.

HOW envious some of our old lovers and growers of the Tulip of fifty years ago would be could they read of a place where growers had breaks "in some varieties amounting to 30 per cent.," as Mr. G. W. Leak reports of his collection at Wisbech on page 574 of November 15 issue. In those times, of course, Tulip lovers desired the rectified or final stage of the Tulip; the self or breeder stage was merely of value in the promise that it gave of some future break, of a fine feathered bloom or a noble flamed flower. Now, the desire would seem to be, in the case of the Darwin, to keep to the present beautiful self shade. As to how to keep them in the self stage or how to cause them to break, no one knows. When growers were very plentiful, say, fifty years ago down to twenty-five years ago, all sorts of experiments were made in the direction of getting Tulips to break, with little success. Some men could break Tulips; others could not. Again, in some years very few would break; as Mr. Leak says, such a small percentage as two per thousand Another season almost all of one variety might break. Last year I had about a dozen bulbs of a treasured breeder or self, Beauty of Litchurch, lovely light lilac, and from which I was trying to work up a stock. At blooming, however, every one of them broke very badly, though I had not had a break in the previous fifteen years.

It must not be forgotten that all Tulips will break, or, perhaps, I had better say, are liable to break, sooner or later. The self or breeder condition of the bloom is simply a *stage;* the rectification will follow. We shall have good breaks and bad breaks—some "only fit to be thrown on the dustheap," as Mr. Leak says, others worthy of admiration. Again, it is quite likely there will be two kinds of breaks, but time will show whether there is any need to distinguish between them, just as in the case of our florist varieties some break in a feathered state, some in a flamed state, others in such a muddled way and so indistinct as to be considered worthless and, consequently, are discarded. In like manner other types of Tulip varieties break.

However a Tulip breaks, it should still be called by the same name, presuming that it has already been named in the self state. Clara Butt is always Clara Butt, whether in the self state or in the rectified condition. It is still Clara Butt, whether it is wearing its morning or its evening gown. Again, in the rectified state you may have Krelage's break or Leak's break. It is quite possible that we may have two kinds of breaks. It will doubtless be within the capability of the Tulip Society to distinguish between them.

Reverting to the remarks made by Mr. Jacob in your issue of October 25; in the case of Sir Joseph Paxton we had Mellor's break, Lea's strain and Barlow's strain, and one also heard of the Wakefield Paxton. All these mean that Mellor had broken a first-rate Paxton, that Lea had a first-rate Flamed Paxton, and that Barlow had a celebrated Premier Flamed Paxton. Mellor was residing in Wakefield; hence the term "Wakefield Paxton." Probably very little lies in the distinction, each man doubtless proclaiming the excellence of his strain. After a few years all these questions of strains quietened down, and Sir Joseph Paxton would be described by just the stage it happened to be shown in or, as one may say, by the dress it was wearing at the time, self or breeder, feathered or flamed. I have "broken" Paxtons myself in recent years equal to any of the "strains" of the earlier growers. Though I have said Tulips will rectify or change, it is also true they are not constant in their markings.



A DISEASED DAFFODIL BULB. (*See text.*)

and in this department lies the principal charm of Tulip culture. What we describe as Clara Butt is a Tulip of a certain shape, a certain form, quite distinct, and capable of being described and distinguished from every other Tulip. The mere fact that to-day it is in a self state, and that next year's bulb throws a bloom that is rectified, striped or flamed, does not justify us in saying the rectified type is a different variety; it is merely a different condition of the same variety.

It is a practice of the Tulip Society not even to allow two sister seedlings to be called by different names unless they can be brought on the table before the judges and shown to be distinct. The difference must not be accidental phases of growth, such as one seedling being rather dwarfed and another very tall; the blooms themselves must be so distinguishable from each other that one would say they were distinct. Why, then, should it be desirable to have one variety called by different names because in one case we have a self, in another case we have the same thing rectified, a very desirable break, a very worthy bloom, and in another case the same variety broken badly and "worthy of the dustheap"? A careful grower discards freely if need be, and by the process of selection obtains the best strains which go to make up a good collection. The Royal National Tulip Society are to co-operate with the Royal Horticultural Society in their endeavour to correct Tulip names when blooming-time comes.

Hale, Cheshire. CHARLES W. NEEDHAM

A DISEASE OF NARCISSUS BULBS.

THE following article by Mr. George Massee, F.L.S., is reprinted from the *Kew Bulletin*, No. 8, 1913, by special permission of the Controller of His Majesty's Stationery Office. These Bulletins, which are published at frequent intervals, are useful to those interested in gardening, and can be obtained through any bookseller from Messrs. Wyman and Sons, Fetter Lane, E.C., or direct from His Majesty's Stationery Office, Westminster, price 4d.

"About three years ago a disease of an unusual nature was met with on various kinds of Narcissus bulbs. During the present season the disease has increased to such a serious extent that, according to the statement of growers on a large scale, entire plots of bulbs have been completely destroyed. The injury is due to the presence of a parasitic fungus called Fusarium bulbigenum, Cooke and Mass., first described in 1887, the host being given as a Narcissus bulb. At that time it was not recognised as a parasite.

As a rule the presence of the parasite is first indicated by the appearance of small, yellowish spots on the leaves. These spots gradually increase in size, become brown and dry, and become more or less covered with pale salmon-coloured specks, which are at first more or less gelatinous, but soon become dry and horny when exposed to the air. These coloured patches are masses of Fusarium spores, which are dispersed by various means and infect neighbouring plants. The mycelium present in the leaf can be traced passing downwards into the bulb, where it grows vigorously and spreads rapidly in the fleshy bulb-scales. During the early stage of infection of the bulb, the tips of the scales only are injured, as indicated by the brown colour. The injury, however, gradually extends to the base and enters the "cushion," whence it spreads rapidly, and very soon the entire bulb is of a uniform brown colour. When this stage is reached, the fungus forms delicate, whitish sheets between the bulb-scales, and numerous chlamydospores or resting-spores are produced on the mycelium present in the substance of the scales. These spores are globose, colourless, with a thick cell-wall, and are produced at the tips of branches, or occur in chains in the length of the mycelium. They vary from 10—14μ in diameter. The Fusarium spores are borne in clusters at the tips of short branches, and in the mass are tinged salmon colour, but are colourless under the microscope. They are three-septate, tips pointed and slightly curved. In size they vary from 40—50 × 5—6μ.

When a bulb becomes brown, it soon commences to decay, and its complete destruction is hastened by the attacks of various kinds of saprophytic fungi, Penicillium, &c., and by saprophytic eel-worms, such as species of Rhabdites. When bulbs decay in this manner before lifting, as frequently happens, the soil becomes infected by the liberation of the chlamydospores, which infect future crops. The germinating chlamydospores emit one or two short, slender branches, which bear a few short chains of minute, colourless, elliptical secondary spores, measuring about 3 × 2μ. These minute spores are the first to infect Narcissus leaves in the spring, after which the disease is continued throughout the season by means of the Fusarium form of spore.

The young leaves of a Narcissus about an inch long were infected with Fusarium spores, and in six days yellowish spots appeared at the points of infection, and as the leaves continued to increase in length, other diseased spots appeared lower down the leaf, mycelium in all instances being present in abundance in the tissues a week after the infection period. It is highly probable that the first infection, by means of the minute secondary-spores produced by the chlamydospores, occurs when the leaves are quite young, and that the disease gradually descends to the base of the leaf and into the bulb by a series of subsequent infections lower and lower down the leaf, due to independent infections by spores washed from diseased patches higher up the leaf. Chlamydospores are present in abundance in the tissues of the leaves.

The continuance of this disease may be due to two independent causes:

1. Slightly-diseased bulbs, containing the Fusarium spores or chlamydospores. Such bulbs are not readily detected when the injury is slight; however, when cut in two the presence of disease is readily indicated by the browning of the scales near the neck of the bulb. It is very doubtful whether soaking slightly-diseased bulbs in a fungicide would kill the mycelium present. It certainly would not kill thick-walled chlamydospores or resting-spores.

2. Infected soil. Whenever a crop of diseased bulbs has occurred, it may be concluded with certainty that the soil is infected, due to the decay of bulbs before lifting, and to fallen diseased leaves, both of which contain chlamydospores in their tissues. So far as is known at present, the fungus has only been met with on Narcissus bulbs, but most probably in course of time it will extend its ravages to other bulbous plants. Under the circumstances, the safest course would be to avoid planting bulbs for two or three years on land that had produced a diseased crop. No kind of dressing would be likely to destroy the chlamydospores directly, but during the spring, when they are germinating and producing secondary-spores, the latter would be killed by a dressing of kainit, or of sulphate of potash, lightly worked into the soil.

The disease is known in Holland, from where, quite unintentionally, the disease may often be reintroduced into this country by means of slightly-infected bulbs.

Description of the Figures.—1. Section of Narcissus bulb, showing early stage of disease. Natural size. 2. Branched mycelium bearing clusters of Fusarium spores. × 400. 3. Chlamydospores or resting-spores. × 400. 4. Chlamydospores germinating and producing secondary-spores. × 400."

THE FRUIT GARDEN.

HINTS ON PLANTING PEACHES AND NECTARINES.

THERE are many warm positions on walls in gardens where Peaches and Nectarines will thrive and be fruitful if properly planted and judiciously managed afterwards. The proper management of these trees does not involve a great deal more labour than is necessary in the case of Pears, for instance, and they are well worth the extra trouble.

Planting.—Trees with very strong young shoots are not the best to plant, for if planted in a deep, loose, rich soil, they may not bear fruits for several years. I know of a case in point where the trees did not bear for seven years after being planted, notwithstanding all efforts to induce them to do so by lifting, root-pruning and the withholding of manure. Those young trees possessing rather small twigs which are wiry and short-jointed and well studded with flower-buds are the right ones to plant. They are, really, in a fruit-bearing state, and should be retained in it. To this end they must be planted in a very firm rooting medium. The soil should be broken up to a depth of 30 inches. No manure must be put in, and it should be made very firm again prior to the planting of the trees. There is no better time for dealing with the soil than while it is in a really dry condition. It can then be firmed, and when the roots are covered the finer soil can be well placed around the smaller roots. Rather than plant in a rich, loose soil, I would place the roots on the surface of unbroken soil and earth them over, as the trees would make more satisfactory growth afterwards. South, south-east and south-west aspects are the best for Peaches and Nectarines. The south and south-west are the best two to select. Keep the roots near the surface covered with 3 inches or 4 inches of soil, and the main stem 9 inches from the wall. Any very strong, straight tap-roots may be cut off; but small ones should be bent forward and a large slate placed under the whole of the roots, as this will prevent them growing directly downwards at first.

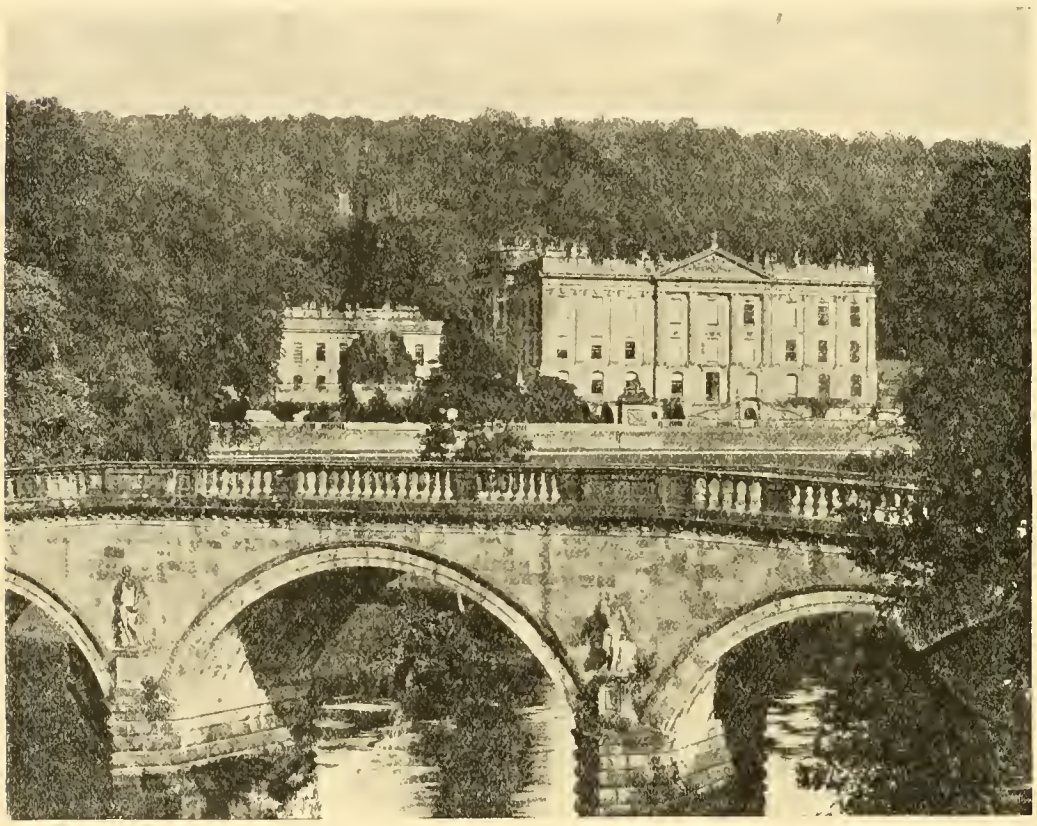
Varieties to Grow.—Hale's Early, Royal George, Alexander, Crimson Galande, Dymond and Noblesse. For growing on walls in the open air select Hale's Early, Crimson Galande and Royal George. The latter is subject to mildew in some seasons, but if protected from cold winds in the early stages of growth, mildew will not be troublesome, and the variety is such a grand one that all amateur fruit-growers should possess it. Of Nectarines grow the following: Elruge, Early Rivers, Humboldt, Pineapple, Violette Hâtive and Balgowan. For outside walls plant the latter, Violette Hâtive and Elruge. Immediately the trees are planted, put on a surface mulch of half-rotted manure. Leave all tying up to be done in the spring; then the roots can settle firmly in the soil. G. G.

GARDENS OF TO-DAY.

CHATSWORTH.

CHATSWORTH, the Derbyshire seat of His Grace the Duke of Devonshire, which the King and Queen are next week honouring with their presence, has, on more than one occasion, not inappropriately been termed the Palace of the Peak. Situated as it is in the beautiful undulating country of the Peak district, with the River Derwent gaily swinging its way through the broad acres that comprise the Park, Chatsworth possesses more interest for those who study and appreciate gardening than perhaps any other place in the United Kingdom. Its historical associations are too well known to need repetition at this juncture; but it may, perhaps, be necessary to remind the younger generation of our readers that it was here that Sir Joseph (then Mr.) Paxton exercised his art of landscape gardening, and the general lay-out of the gardens to-day is much as it was in his time. The design for the Crystal Palace, of which so much has been heard recently, was supposed to have been suggested by the Lily House that he designed at Chatsworth, and a comparison of the architecture of the two certainly appears to lend some colour to this theory.

We do not, however, propose to enter into useless discussions as to the correctness or otherwise of this supposition, nor to dwell at length on the work of Paxton, but rather to give a necessarily brief description of a few features of the gardens and pleasure grounds as we saw them one day in September. Although it rained as it can only rain in the district of the Peaks, we were able, under the courteous guidance of Mr. Jennings, the head-gardener, to see something of what are undoubtedly the most noble, if not the most pleasingly-designed, gardens in Great Britain. We must, however, first mention that the mansion and grounds are open to visitors three days a week from May till August. To many who have spent pleasant hours there it will come, perhaps, as a surprise to know that the pools in the famous Water Lily House have been filled in and the house converted into an orchard-house, and for protecting Chrysanthemums in the autumn. A notable feature is an avenue of closely pruned Tulip Trees that leads to the main entrance, the green foliage of these making a fine background for tall pyramids of scarlet Pelargonium Viscount Kitchener. These plants, which are grown in large tubs, are about ten feet high, and create a really wonderful and pleasing effect.



CHATSWORTH, WHERE THE KING AND QUEEN ARE TO STAY NEXT WEEK.

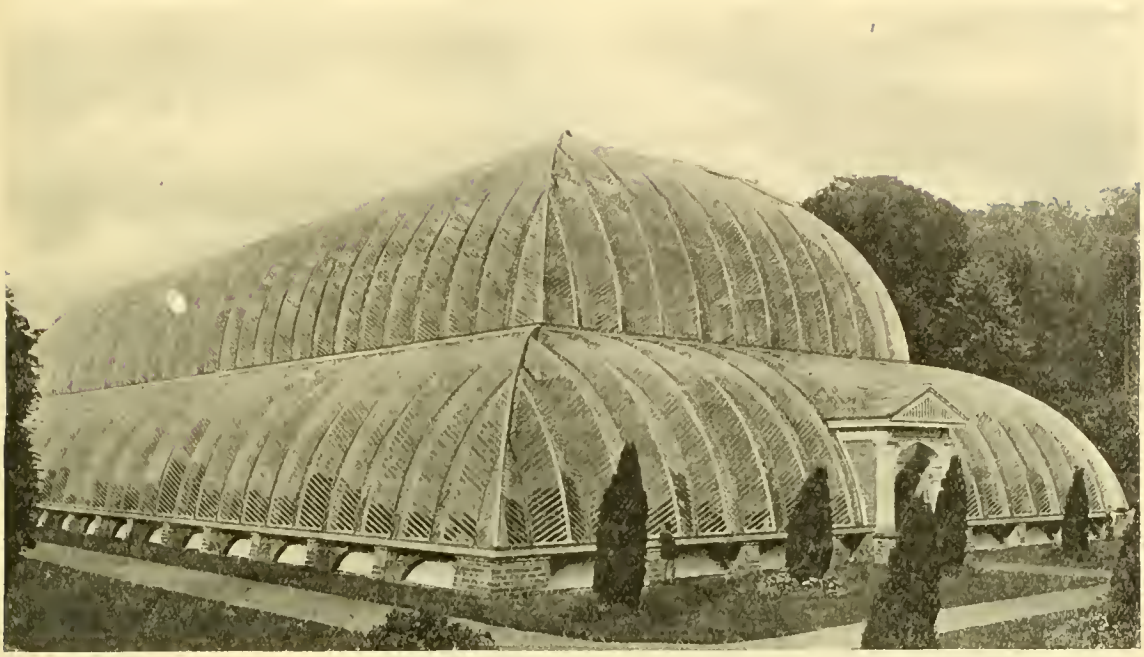
The Italian and French gardens at Chatsworth are both good examples of their kind, the former being planned on particularly bold lines. Here Irish Yews stand like sentinels on guard, with large beds filled with ornamental foliage and flowering shrubs as companions, broad walks leading to other and more remote parts of the gardens, branching off in several directions. In the French Garden, which is on a much smaller scale, the pillars supporting the statuary are wreathed with Rambler Roses, and the beds planted with white, purple, violet and pale blue Violas, the whole being so arranged as to provide a perfect harmony of quiet colours. Leading from the French Garden to the broad expanse of water beyond is the famous Solomon's Walk, a broad pathway, skirting, as it were, the large expanse of lawn that lies at the south front of the mansion, the grass bank immediately below the walk having beds cut in its face to form a bold chain, with pendants at intervals of about twenty yards. At the time of our visit this chain was planted with yellow and white Violas, and the pendants with those of violet and lavender hues. To fill these and other beds no fewer than 20,000 Viola plants are required annually, these being obtained by means of cuttings planted early in the autumn.

Fountains, cascades and statues abound in the pleasure grounds, while ornamental ponds, filled with Water Lilies and other aquatics, meet the visitor at almost every turn. The water is obtained from the lake situated some 400 feet above the level of the gardens and right on the side of the towering hill, whence flows the wonderful cascade shown in the illustration on page 611. Then from the Wellington Rock, high up on the cliff side, water tumbles over jutting rocks to the pool below, thence wending a more peaceful way to the lake in the dell or natural garden near by, where Bulrushes, hardy Ferns and other native plants find a happy home.

Further up on the hillside, and stretching away from the mansion for a considerable distance, is the Arboretum, which includes many good and well-grown trees. Among these are the three Royal trees. One, an Oak, was planted by the late Queen Victoria, then Princess Victoria, in 1832. Planter and tree would be about the same age; the Oak is still in its youth, but the planter has, alas! been called to the Great Beyond. It is only by a comparison such as this that we realise how fleeting is the life of man. Another tree is a Spanish Chestnut, planted at the same time by the Duchess of Kent; and the third is a Sycamore, planted eleven years later by Prince Albert, who had then been Prince Consort for two years. Bordering the pathway that takes the visitor through the Arboretum is a babbling stream of crystal water some half a mile long, in which trout may at times be seen disporting themselves. Rhododendrons and other suitable shrubs and low-growing trees are effectively grouped by the margins of the stream. This bountiful and natural supply of water is of the greatest value to Chatsworth, and in the Temple of Venus, near where the rill loses itself in the ground, the following descriptive poem is carved in stone:

> Won from the brow of yonder headlong Hill,
> Through grassy channels, see, the sparkling rill
> O'er the chafed pebbles, in its murmuring flow
> Sheds freshness on the thirsty vale below.
> Quick'ning the ground till trees of every zone,
> In Chatsworth's soil, and clime, forget their own.

To the keen lover of plants the indoor gardens at Chatsworth are almost as interesting as the noble terraces and broad, carpet-like lawns that form such a feature of the outdoor gardens. Stretching up from the French Garden is the Portland Walk, which is a sort of corridor with glass roof and front. Here many interesting plants find a congenial home, among them being some fine old specimens of Camellia reticulata, Fuchsias, Acacias and other hard-wooded kinds. In the



THE CONSERVATORY AT CHATSWORTH, PROBABLY THE LARGEST OF ITS KIND IN THIS COUNTRY.

plant-houses near by, Begonia Gloire de Lorraine, Scented-leaved Pelargoniums, Carnations, Heliotropes, Hydrangeas and Chrysanthemums are grown in very large quantities, and at the time of our visit these were in particularly good condition. Special mention must be made of the Carnations, which are the favourite flowers of Her Grace the Duchess of Devonshire. Perpetual-flowering and Malmaison kinds are grown by the thousand, and we have never seen a finer lot of plants.

One of the principal features of Chatsworth is, of course, the large conservatory or winter garden, an illustration of which is reproduced above. This is probably the largest of its kind in any private establishment in this country, and the broad gravel path that runs through the centre is sufficiently large to enable carriages to be driven through with perfect freedom. Owing to the character of the plants in this house, the temperature has, of necessity, to be maintained much higher than is usual in conservatories. At each end of the house bold masses of rockwork have been skilfully arranged, with small pools nestling at their bases, the latter forming congenial homes for choice Water Lilies, the Cape Pondweed and many other kinds of aquatic plants. The rockwork itself is almost concealed by Ferns, Selaginellas and other dwarf forms of plant-life. In the broad borders on either side of the main pathway such plants as Monstera deliciosa, Musa Cavendishii (a Banana that fruits splendidly here), Poivrea coccinea (with racemes of small, bright scarlet flowers), Hedychiums and many other unusual kinds are grown in quantity; hence the visitor might well imagine himself to be in a semi-tropical country instead of in one of the most beautiful counties of England.

The fruit-houses are, naturally, of a very extensive character, and such kinds as Peaches, Figs, Muscat Grapes and choice dessert Cherries are very largely grown. We have seldom seen Peach trees in better condition than those at Chatsworth, and the Muscat Grape Vines were carrying very heavy crops of fruit, which reflected the greatest credit on those responsible for their cultivation. In one of the Peach-houses we were interested to see a very fine plant of the Persimmon (Diospyros Kaki Pashomarii) that was bearing a very heavy crop of its pale orange coloured fruits. Unfortunately, owing to the proximity of the fruit-houses to the River Derwent, it is no uncommon occurrence for the stokeholes and floors to be flooded. This is, of course, a very severe handicap in the production of first-class fruit.

There are, of course, many other interesting features in the gardens at Chatsworth, but lack of space will not allow us to deal with them here. The average visitor will find it difficult indeed to get a full grasp of the noble and beautiful effects that abound so freely in these gardens, which have, through the kindness of the Duke of Devonshire, come to be regarded more in the light of a national asset than the private property of one of our oldest English families.

There are many lessons to learn at Chatsworth, and the student of English gardening could, with advantage, spend many days in this delectable place, where garden and woodland and water are successfully blended to make one harmonious whole.

A VIEW IN THE GARDENS AT CHATSWORTH, WITH THE LARGE CASCADE IN THE BACKGROUND.

COLOURED PLATE.

PLATE 1482.

THE LEPTOSPERMUMS.

THE Leptospermums are a genus of shrubs belonging to the Myrtle family, natives of Australia and New Zealand. Some members have been long grown in gardens, where they are remarkable for their great profusion of blossoms, which, until the introduction of some of the newer forms of Leptospermum scoparium, were in most cases white, or nearly so. While the different kinds must be looked upon as greenhouse or conservatory plants over the greater part of this country, they form handsome outdoor bushes in the favoured parts of these islands, such as in the South-West of England and the corresponding portion of Scotland. In parts of the Sister Isle, too, they are equally at home, and justly valued for their beauty when in bloom.

The oldest and best-known member of the genus is Leptospermum scoparium, which occurs in great profusion in a wild state both in Australia and New Zealand. One of its popular names is Captain Cook's Tea Plant, owing to the leaves having been used for tea by that intrepid navigator during his voyage round the world. Another name by which it is known in its New Zealand home is Manuka, concerning which the late Mr. John Gould Veitch, in his "Traveller's Notes," writes: "For many miles we drove through a dense growth of Manuka (Leptospermum scoparium), described as the most common plant in the Colony. It covers hundreds of acres, ranging from half a foot to 30 feet in height, and is said to be very effective from November till January, when it flowers in great profusion; at other times the acres of peculiar grey green are apt to weary the eye." Of L. scoparium the variety grandiflorum has been known for over a century. This has larger flowers than the type, and they have, in addition, a rosy tinge. It is not much grown; indeed, the extreme variability to be found among the different forms of L. scoparium, as shown last year at the International Horticultural Exhibition held at Chelsea, took a great many by surprise.

At that time the variety Nichollii, of which a coloured plate is given with this issue, made what must be regarded as its first public appearance, and from its distinct character and great beauty it created quite a *furore*. Not only did it attract the attention of the general public, but it was awarded a first-class certificate by the floral committee, and, furthermore, gained the cup for the best new plant in the show. As it is such a real good thing, some account of its early history will, no doubt, be interesting. On the authority of Captain A. A. Dorrien-Smith, this remarkable variety originated on the sandhills a little north of Christchurch, New Zealand, and was apparently derived from the white-flowered forms which alone occur in its immediate neighbourhood. It was taken in hand by Messrs. Nairn and Sons, nurserymen, Christchurch, and by 1908 a fair stock had been obtained. Apart from the rich colour of its blossoms, the leaves are also very deeply tinted. This variety is stiffer in habit than the typical L. scoparium, while another, of even more upright growth, was shown at the same time and given an award of merit. This was Chapmannii, whose flowers have not the richness of colouring of those of Nichollii, but are more of a deep rose or rosy red tint. It was discovered as an individual plant in the South Island of New Zealand some years before Nichollii was found. A third variety, and an exceedingly graceful one, was shown at Chelsea at the same time as the others. This was Boscawenii, whose flowers are unusually large, and white with a reddish centre. The unopened buds are brightly coloured. It may be noted that these three beautiful and distinct varieties were then shown by the Rev. A. T. Boscawen, Long Rock, Cornwall.

Since L. s. Nichollii gained such high honours it has been much sought after and now finds a suitable home in a few favoured gardens. It is said to come reasonably true from seed, and, as with the other members of the genus, cuttings are not at all difficult to root.

Of the other species of Leptospermums, perhaps the best known is L. bullatum, a free-growing, compact, little bush. Good flowering examples of this may be grown in pots 5 inches or 6 inches in diameter, and in this way they form useful decorative plants for even the small greenhouse. This by no means exhausts the list, but the following are very rarely met with: L. ericoides, L. flavescens, L. lævigatum, L. myrtifolium, L. pubescens and L. stellatum.

Propagation and Culture.—As above mentioned, Leptospermums are not at all difficult to increase by means of cuttings. These should be formed in early summer of the half-ripened shoots, which, if dibbled into pots of sandy soil and placed in a close propagating-case kept rather warmer than the temperature in which they have been grown, will soon root. A mixture of loam, peat and sand will suit them well. Potted off singly when sufficiently rooted, they must be stopped two or three times during their earlier stages in order to eosure a bushy habit of growth. Besides cuttings, seeds often ripen, and from these young plants can be raised in quantity, as each capsule contains, generally speaking, a considerable number of seeds. Established plants employed for the decoration of the greenhouse or conservatory should, after flowering, have the shoots shortened back if necessary, and any old and exhausted wood in the middle of the specimen thinned out. If repotting is needed, it must be done as soon as the young shoots are about half an inch in length. The compost of loam, peat and sand should be fairly rough and pressed down firmly. If the plant or plants do not require repotting, an occasional stimulant will be very beneficial during the growing season. Throughout the summer the plants may be stood out of doors, taking care that they are well supplied with water. H. P.

[The coloured plate was prepared from a spray kindly sent us by Mr. James Coey, Donard Nursery, Newcastle, County Down, Ireland.—ED.]

THE WHITE FLOWERED ABUTILON BOULE DE NEIGE.

ABUTILON BOULE DE NEIGE.

ALTHOUGH an old variety, this is still one of the best white Abutilons as a greenhouse climber. It is seen to best advantage when trained to roof rafters or when tied loosely to greenhouse pillars. Throughout winter it provides a succession of flowers, borne gracefully on slender stems. The white petals are delicately veined or netted, to which the golden anthers of expanded flowers form a pleasing contrast.

NEW FLOWERING SHRUB:
"Leptospermum Nicholii."

Hudson & Kearns, Ltd., London, S.E.

GARDENING FOR BEGINNERS.

LILIES FOR OUTDOOR BORDERS.

IN all we have about sixty species of Liliums, or Lilies, cultivated in our gardens. Some twelve to twenty of these will grow in the soil one meets with in the borders of most gardens, flowering freely in the broad, extensive borders of a large country garden, or the narrow border of the town and suburban garden. Lilies may be associated with herbaceous and other plants in the perennial or mixed borders, while they will be found to thrive equally well in the shrubbery border. A few groups planted between the shrubs where space permits give added interest to the border, and brighten it up considerably when the Lilies are in flower. From these few remarks it will be gathered that the beginner need have no hesitation in taking up Lily culture. It will be found a most interesting subject, both on account of the different kinds being so varied in habit, the colour and size of the flowers, and from the fact that outside in the border a dozen kinds will provide a succession of bloom from the end of May to October.

The most general method of increasing Lilies is by means of offsets, the bulbs with age dividing up and producing several growths. These may be carefully separated when the stems die down in the autumn or winter when the weather is open. Several Lilies, notably the Tiger Lily, produce bulbils in the axils of the leaves. These, if carefully removed when mature and placed in boxes of sandy soil, or dibbled in a sheltered border outside, will flower in two or three years. Raising Lilies from seeds is a rather fascinating occupation, which may be quite satisfactorily carried on with only the help of a cold frame. The plants flower in from two to four years, only the Giant Himalayan Lily, Lilium giganteum, taking, as a rule, longer than this.

Planting Lily Bulbs.—The depth to plant the bulbs of Lilies depends on their size and whether roots are produced on the base of the stems immediately above the bulbs as well as below, or only from below the bulbs. Examples of a stem-rooting Lily, L. speciosum, and L. pardalinum, a non-stem-rooting Lily, are illustrated. These serve to show quite well how necessary it is to plant the bulbs of the stem-rooting Lilies much deeper in the ground. A selection of Lilies suitable for the beginner, which may be expected to thrive and flower freely in most gardens, is as follows: Stem-rooting—L. croceum, L. elegans, L. Hansonii, L. Henryi, L. longiflorum, L. speciosum, L. tigrinum and L. umbellatum. Non-stem-rooting—L. candidum, L. chalcedonicum, L. Martagon, L. monadelphum, L. pardalinum, L. pomponium, L. pyrenaicum and L. testaceum. Large bulbs, such as L. Henryi, which produce quantities of stem-roots, should be covered with 8 inches of soil; bulbs of moderate size, L. tigrinum, 6 inches; and small bulbs, L. elegans, 4 inches. Large bulbs with no stem-roots, L. pardalinum, 3 inches to 4 inches of soil; small bulbs, an inch less. In cottage gardens we sometimes see the Madonna Lily, L. candidum, with its bulbs growing on the surface, in excellent condition, apparently unharmed by frost or any other weather conditions.

2.—LILY BULBS PLACED IN POSITION AND READY TO BE COVERED WITH SOIL.

1.—THE STEM-ROOTING LILY ON THE LEFT SHOULD BE PLANTED DEEPER THAN THE NON-STEM-ROOTING LILY ON THE RIGHT.

The second illustration depicts the method of planting Lilies in groups or clumps. The six bulbs are those of L. umbellatum. The hole is 2 feet across and 8 inches deep, so that when the bulbs are placed on the bottom they may be covered with 6 inches of soil. In planting Lilies, particularly if the soil is heavy, it is an excellent plan to surround the bulbs with coarse sand, placing a layer in the bottom of the hole previous to putting in the bulbs, and another on the top before covering in with soil. This assists drainage immediately around the bulbs. The roots of Lilies will be found to revel in flaky leaf-mould, a little of which may with advantage be incorporated with the soil when planting. With the exception of L. candidum and L. testaceum, which should be planted in August, all the Lilies named may be planted at the present time. It is also safer to pot up the bulbs of L. speciosum and L. longiflorum if newly-imported Japanese bulbs are purchased.

L. chalcedonicum, the Scarlet Turk's-cap Lily, 3 feet to 4 feet high; flowers in July; best in sunny herbaceous border; rich loamy soil.

L. croceum, the Orange Lily, 3 feet to 4 feet; flowers June and July; loamy soil, in herbaceous border.

L. elegans, also known as thunbergianum, flowers during May and June; 1 foot to 2 feet high; several sorts with yellow, orange, apricot and crimson flowers. Plant along the front of a shrubbery border where the plants will get a little shade about midday. Add a little peat to the soil when planting.

L. Hansonii, yellow, drooping, spotted flowers, 3 feet to 4 feet high; flowers in June; herbaceous or shrubbery border.

L. Martagon, light purple spotted flowers, 3 feet to 4 feet high; flowers June and July; delightful in the borders and wild garden. The white variety, alba, is one of the most beautiful of all our garden Lilies, producing stems 4 feet high, with twenty or more waxy white flowers.

L. monadelphum, also known as szovitzianum and colchicum, rich straw yellow flowers, 4 feet to 5 feet high; flowers in July; a good Lily for the herbaceous and mixed border.

L. pardalinum, orange spotted flowers, 5 feet to 7 feet high; flowers during July and August; plant in shrubbery border, using a little peat.

L. pyrenaicum, yellow, spotted black, 2½ feet to 3 feet; flowers May and June; shrubbery border and wild garden or herbaceous border; the first Lily to flower outside.

L. tigrinum, the Tiger Lily, orange spotted flowers, 4 feet high; flowers in August; Fortunei giganteum flowers in September and October; grows 5 feet to 6 feet high; herbaceous border.

L. umbellatum.—There are several varieties with orange, red, or crimson flowers, 2 feet to 2½ feet high; flowers in June and July; plant in herbaceous or shrubbery border.

A. O.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Flower Garden.

Plants in Frames.—These must be regularly picked over, as, wherever a decayed leaf comes in contact with a sound one, the latter is sure to become contaminated owing to the great amount of moisture at this season of the year.

Fuchsias.—Where spring-struck plants are relied upon for filling vases in the flower garden and for bedding-out purposes, an early start is necessary. A few stock plants should be partly cut over and placed in a moderately warm house where they may be lightly sprayed over. Here they will soon break nicely, and if kept in a light position, good, sturdy cuttings should be ready for rooting early in the year, and quite good plants are thus obtained by the time they are required.

The Pleasure Grounds.

Hypericum perforatum.—The common St. John's Wort is a very useful plant about the pleasure grounds, as it may be utilised in a number of positions where other plants will hardly grow, much less thrive. On borders under trees, once it becomes established, it will form a fine green groundwork, which looks very much nicer than the bare soil. Under large, isolated trees, where grass will not grow, this plant will do well, and if small plants or offsets are planted about nine inches apart any time during the winter, they will quickly establish themselves, and though they may not flower so freely as in a more open position, they will at least look green the whole season through. By cutting down early in the spring and giving the ground a slight dressing of manure, growth is accentuated. For edging large beds of shrubs it is also useful, while steep banks may be furnished with it after many other subjects have failed to grow at all.

Plants Under Glass.

Chrysanthemums.—By this date cuttings should be in a good condition for propagation, and though I am convinced that very early propagation is not actually necessary, it is quite wise to make a start with those varieties that require a long season of growth. Bob Pulling, Queen Mary, Hon. Mrs. Lopes, Amber Queen, Mme. P. Radaelli and its sports, Edith Jameson and its sports, Mrs. R. C. Pulling, Fred Chandler, Fred Green and Miss A. E. Roope are best on first-crown buds, and in each instance these have to be secured fairly early.

Decorative and Single Varieties as they are cut down may be put in cold frames, as these need not be propagated before the month of February.

Forcing Plants, such as Azalea mollis, Lilacs, Prunuses, Laburnums and Viburnums, may now with advantage be brought indoors, and though it is not advisable to give too much heat to commence with, a temperature of 50° at night, running it up with sun-heat during the day, will soon put them into growth, when a little more heat may be employed. In medium-sized establishments it is not convenient to devote a house entirely to these forcing plants, but they will be found to do quite well in a vinery or Peach-house that has been shut up, removing them eventually to the flowering house or conservatory.

The Kitchen Garden.

Seed Potatoes that may be required for very early work in pots or heated frames may with advantage be stood in boxes and placed in a light position, when sprouting will commence. At this season they do not push so quickly; hence the necessity of preparing them some time beforehand.

Hot-beds.—These are best made up in brick pits at this season, and should be well trodden down. A good proportion of leaves will tend to increase the lasting qualities of the hot-bed. Carrots are the first crop that should be sown, and for these from 6 inches to 9 inches of soil should be placed on the fermenting material. If the soil comes to within 1 inch or 2 inches of the glass, so much the better, as it is sure to sink considerably before the crop attains any great height. Sow as soon as the soil is in condition, and keep the frames fairly close till the seedlings appear through the soil. The frames must be covered in severe weather, though nothing short of frost will actually hurt the Carrots.

Fruits Under Glass.

Pot Figs.—Where these are utilised for very early crops, the trees should now be thoroughly cleaned, afterwards giving them a good dressing of Gishurst or some other insecticide. This is especially necessary where the trees are infested with scale. The house in which the trees are to be grown should also be thoroughly cleansed before starting the Figs. A steady temperature of between 50° to 60° should be maintained till the leaves commence to push, when the temperature may be raised from 5° to 10°. Bottom-heat is not absolutely essential for pot Figs, but for early work it is certainly beneficial. Too much water at the roots should be avoided, though at no time should the roots become at all dry after the plants are started, and a fairly humid atmosphere must be kept up by lightly spraying and damping, reducing it somewhat in the event of very frosty weather.

Hardy Fruits.

In addition to the usual small fruits, such as Black, Red and White Currants, Gooseberries, Blackberries and Loganberries are fruits that are well worth more consideration than they often get. It may be urged that Blackberries are very easily secured in the wild state right out in the country; but there are many gardens where this does not apply, and I know of no fruit which is more appreciated and, I might add, remunerative than the Parsley-leaved Blackberry. Once established, it will go on fruiting for years; but, like everything else, it must be given a fair amount of manure either in the winter or, preferably, when the fruit is set in the autumn. The Loganberry also is very useful, and as it goes on cropping after the bulk of the Raspberries are over, it should be cultivated in every garden. I find it soon gets tired of one position in the garden, so young plants should be put in fresh positions every four or five years. The present is a good time to plant both of these subjects, and, providing the soil has been well worked, practically any position in the garden will suit them.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Wheeling Manure.—Any necessary wheeling of manure or soil, either for improvements or routine work, should be done during frosty weather if convenient, and where this is not possible, planks should be laid for wheeling beyond the walks.

Carnations.—Where these have the benefit of a frame, they should be kept rather dry and a sharp look-out be kept for mice; and, if they appear, they must at once be trapped or treated to a little Rodine on the top of buttered bread.

Herbaceous Flowers. — Materials for top-dressing should be got ready for application in the spring. Decayed leaves, old potting soil and vegetable mould are all suitable, and if they are mixed now and formed into a conical heap, they will be in good condition when wanted.

The Smaller Gladioli.—These are now to hand, and if the ground is ready or is in working order, it is as well to plant them now and afford them some protection, as February is often a wintry month in Scotland, and if planting is delayed beyond that, a proportion of the corms often perish. The following are desirable varieties: Ackermannii, Blushing Bride, Colvillei alba, C. rosea, Ne Plus Ultra and Peach Blossom.

The Rose Garden.

Planting Rose Hedges.—The ground should be well trenched, and the plants be put zigzag in a double line at about two and a-half feet apart in the line. After being planted they should be headed down to from a foot to 2 feet, according to the class. Afterwards they will require little attention beyond keeping them free from weeds and any extra vigorous shoots in check.

The Rock Garden.

Mice.—It is no uncommon thing for mice to ensconce themselves in the cosy corners of the rock garden during the cold, wet winter weather, and when wintry conditions obtain they are nothing loth to nibble at some favourite plant and make short work of it. One cannot, therefore, be wrong in keeping one or two "Gert" traps, baited with a little piece of cheese, in those same cosy corners.

Plants Under Glass.

Propagating Chrysanthemums.—The work of propagating the large-flowered Japanese varieties must now be proceeded with. The cuttings should either be taken from suckers or from as near the base of the stem as possible. Few growers strike them singly in 2½-inch pots nowadays, but dibble them in rather thinly in pots 4 inches or 5 inches in diameter. A suitable compost to use is equal parts of loam, good leaf-mould and sharp sand, finishing with a thin layer of sand. The pots should, of course, be very thoroughly drained. Stand the pots in a propagating-frame, and, although opinions differ, I think it is better not to cover with glass, but leave them exposed. I admit that by doing so they will take rather longer to root, but one will probably not lose a cutting through damping, and the young plants will be sturdy from the start. Place them in a greenhouse temperature and give just sufficient water to keep the soil from becoming actually dry.

Cyclamens.—These attractive flowers are at present a valuable asset, both for conservatory decoration and for filling small vases. When picking the blooms, they should not be cut, but pulled out by means of a twist or wrench. They last a long time in the cut state.

Fruits Under Glass.

Pruning Late Vines.—As soon as Gros Colman, Black Alicante and Lady Downe's have shed their leaves, they should be pruned. Where long spurs have been allowed to form on the rods, each alternate one should be cut back with a fine saw, and the cut afterwards dressed with a sharp knife. In pruning, only one or two eyes should be left, as only one can ultimately be retained.

Pot Vines.—Before starting these see that the drainage is all right, and if the presence of worms is suspected, give a watering with clear lime-water. Remove a little of the surface soil by means of a pointed stick, and give the plants a good top-dressing with turfy loam and Thomson's Vine Manure, after which give a good watering. It is an excellent plan to stand the pots on an inverted turf, but there is no need to do this till the roots become active. If placed under too soon, the turf is apt to become sodden before the roots are ready to lay hold of it.

The Hardy Fruit Garden.

Loganberries.—If the double trellis system is pursued, the succession canes will have been tied in position as growth has proceeded; still, it is necessary to overhaul the plants after they have become defoliated. Head back any shoots which have gone beyond the desired limit, cutting away all laterals, after which examine the shoots and finish any tying of them that is necessary.

Raspberries.—If these are trained to stakes, they should be examined, and any which have become decayed should be replaced by new ones, after which any superfluous canes inadvertently left should be cut away. Five canes are quite enough to leave at a stool. When subsequently tying in the shoots, do not tie them hard to the stake.

The Vegetable Garden.

Protection from Frost.—It should be borne in mind that while Jerusalem Artichokes, Parsnips and Leeks are quite hardy, they cannot be dug up during severe frost unless a portion of the crop has been covered with some loose litter as soon as such a condition threatens. The alternative plan is to lift a portion of the crop and store it in a cellar or shed among sand. Celery must, of course, be protected from frost, or serious damage to the crop will result.

Brussels Sprouts.—This crop is a valuable asset during the winter, but if a portion of the crop is allowed to remain after picking is finished, the growing tops will prove very useful in spring before early Cabbages turn in.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

THE ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

SOME OF THE NEWER DECORATIVE ROSES.

(*Continued from page* 598.)

WHAT is a decorative Rose? In the old days, say twenty years back, anything in the shape of a Rose that was not up to exhibition standard was termed a "decorative" or "garden" Rose, and that to a certain, although undoubtedly to a less, extent is still true. But the time surely has come when a standard as stringent—I would almost write more stringent—should be set up for our garden or decorative Roses. With the exhibition Rose much may be, and is, forgiven if the flower conforms to a certain orthodox standard. It may be lacking in scent, it may be of weak or deficient constitution, very shy-flowering, of bad habit of growth, even be of a bad colour, and yet still be a good exhibition variety. Now, none of these various defects can be allowed in a good garden Rose. It must have perfume, be of strong and vigorous constitution, of free-flowering nature spread over a long period, of a good habit of growth, and, lastly, must be of a fine and pleasing colour. The almost only characteristic that it need not have is a uniform or symmetrical shape. Which standard is the more difficult to obtain? Undoubtedly that suggested as the one to adopt for the garden Rose. A standard is necessary. Perhaps the National Rose Society will look into the matter at the same time as they tackle the question of classification. The two are very much alike; in fact, a solution of the one will almost solve the other. We do not want a Rose that is neither the one nor the other, not good enough shape for exhibition purposes, and lacking fragrance or some equally important feature, and so making it undesirable for decorative purposes. I am sure if the National Rose Society would only tackle the question boldly, they would earn the grateful thanks of all concerned, trade grower and Rose purchaser alike. Something will have to be done, for the number of varieties is getting legion. As long as the public ask for the old varieties that have been superseded by better varieties, the nurserymen will grow them. I am glad to see that Messrs. Alex. Dickson and Sons are doing something to meet the difficulty. After a detailed list of Hybrid Perpetuals covering three pages, they give a further list of names, stating the following can be supplied; but in my opinion much better varieties are to be found in the preceding pages. I think these can very well be done without, and I presume in due course they will not be grown. I should like the National Rose Society to draw up a list of Roses "we can do without," and I am afraid among them would have to be included many new as well as many old varieties.

In dealing with the newer Roses in a kind of general review, I mentioned certain varieties as the best of their colour, and I do not, therefore, propose to refer to these again unless they call, as some few of them will, for special comment. I do not think there are any Hybrid Perpetual Roses either new enough or good enough to be referred to. Rouge Angevine is a very fine colour, but has an awkward habit of growth, and is *scentless;* this in a red Rose is unforgivable. With regard to the Hybrid Teas, the story is very different. I will try to keep them in alphabetical order.

Bertha Gaulis (P. Bernaix, 1910) has proved very free-flowering and a good grower here. Colour, deep china rose; good shaped flowers, and not subject to mildew. Nice long bud.

British Queen (S. McGredy and Son, 1912) I have already referred to. The flowers last a very long time, both on the plant and when cut. Of very similar habit of growth to Mrs. Herbert Stevens; in fact, it might have been sent out as a Tea without anyone grumbling.

Carine (Alex. Dickson and Sons, 1911).—One of the favourites in my garden here. The long and elegant shaped buds are all the colours almost of the rainbow, make delightful button-holes, and a most beautiful table decoration; but it is at its best in the garden. A plant of it with buds and flowers in all stages of growth is a glorious picture. One of these days I hope to have a bed of it. An excellent grower, carrying its flowers erect on long footstalks. Strongly perfumed, with fine foliage. It is altogether a delightful Rose. I have not named its colour, because I cannot. No two flowers, unless they are of the same age, are alike, and one gets shades of cream, fawn, orange with carmine markings, blush and pale salmon pink all on the plant at once. A decided and distinct acquisition to our garden Roses.

Dorothy Ratcliffe (S. McGredy and Son, 1911).—Medium-sized flowers, probably a Lyon cross, yellow and fawn, shaded coral. A beautiful Rose, but surpassed by the raisers' newer varieties Mrs. C. H. Pearson and Mrs. F. W. Vanderbilt. It makes a good bedding variety.

Duchess of Wellington (Alex. Dickson and Sons, 1909).—A tall grower, after the style of Killarney, free-flowering, deep saffron yellow in colour, flowers fairly full, delightful fragrance. A good variety.

Edith Part (S. McGredy and Son, 1913).—I see the National Rose Society's new catalogue (1914 edition) calls the colour of this Rose honey yellow. This is a mistake. The flower is really a bicolor, rich brick red almost, on the outer petal a colour that nearly comes through the flesh or pink of the inside of the petal. A particularly striking Rose, flowers medium size, but very freely produced, a good grower, mildew-proof, deliciously scented, of fine habit. Really a continuation of the same colour-scheme that runs through Grand Duc de Luxembourg, Mrs. E. G. Hill, Lady Alice Stanley and similar Roses, only in this case very much intensified. I have never seen any yellow, honey or otherwise, in this flower, and I have grown it now for two seasons and saw it in full flower at Portadown in 1912.

Entente Cordiale (Pernet-Ducher, 1909).—This is quite a good Rose, of a creamy white, shaded yellow at the base of the petal, an excellent shape and a free-flowerer. It should make a good bedding Rose. Unfortunately, another Rose has a similar name, but that other Rose is little better than a weed, and certainly not worth growing.

Florence Haswell Veitch (William Paul and Son, 1911).—Almost a pillar Rose, at any rate a pretty vigorous dwarf. Very fine colour, brilliant scarlet, very fragrant and fairly free-flowering. Not very large, but of good shape.

H. E. Richardson (Hugh Dickson, 1913).—A gold medal Rose, awarded at Belfast last year. A miniature Victor Hugo, beautiful shape, very fine colour, vigorous free growth, and I hope will make a fine bedding Rose. As shown by the raisers a very beautiful variety.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

NURSERY NOTES.

MESSRS. WILLIAM ARTINDALE AND SON.

IT is not uncommon to find that people who dwell in the metropolis, its nearer suburbs and the Home Counties think the area covered and with which they are more or less familiar represents the universe. They pride themselves upon the impurities of the atmosphere and upon the delightful scenery of many places within the sound of Bow Bells. They rest assured in their own minds that the nurserymen who shine in the limelight of the Royal Horticultural Society count, while those who seldom come to the "Hall" are lesser luminaries of another and a poorer world. They are wrong on many points. The prevailing conditions of the atmosphere of Birmingham, Manchester, Sheffield and other of our great provincial cities would do credit to the best London particular that can be remembered by living man, and the environs of these places are at once a source of pleasure and wonder to the visitor who has become imbued with orthodox metropolitan notions. It is quickly found, too, that some of the provincial nurserymen who do not honour the Hall frequently have establishments equipped and stocked in a manner that would do credit to the finest of those who always contribute exhibits, but they do not come regularly because they cannot justify the enormous expense entailed.

Among such as these rank Messrs. William Artindale and Son of Sheffield. The address may, at first glance, appear rather vague. The firm has depôts and warehouses in several parts of the city, and at the moment it is purposed to direct attention to one only—the nursery at Nether Green, beyond question one of the most charming suburbs of which any town or city in England can boast.

When in Sheffield in the late summer to see a local show, a few spare hours were promptly devoted to a visit to Nether Green in the anticipation of seeing a small, provincial nursery. The realisation was, however, quite different from the anticipation, since the place proved to be splendidly maintained, and stocked with such a comprehensive collection of hardy plants as would furnish ready and excellent material for furnishing completely a garden of exceptional extent. The ground stands on the higher slopes of a hill, and is divided into many quarters of varying sizes to afford proper accommodation for the many scores of plants demanding different requirements. Tall hedges separate the quarters or drifts, and within them the features at the particular moment of this visit were the Sweet Peas and the Violas.

Of the first named there were dozens of magnificent rows in full bloom at a time when our own in the South were fast assuming the sere and yellow. All the finest new varieties were seen in splendid form, and those old ones that must still rank among the best were also grown in bulk. They were 8 feet to 10 feet high under ordinary culture, which says much for the excellence of the soil and the cleverness of the management to which they are subjected. The primary object was the production of bushels of blooms for sale in the firm's shops in the city, but they had also yielded hundreds of superb bunches for exhibition at shows all over the provinces.

The feature of the time was, however, the Viola garden, which presented a picture the equal of which

could not easily be found anywhere in the world, and assuredly could not be excelled. Great beds, each filled with one variety, were carpets of handsome blossoms, embracing all the hues and shades now found in these beautiful plants. Some varieties were more floriferous than others; some plants grew more vigorously than others; but the comprehensive display was perfect. There are some five hundred thousand plants grown here, and sixteen medals have been awarded them at various shows this season. To mention only a few, and these not necessarily novelties, there were: Mrs. William Artindale, bronzy purple centre, shading mauve and splashed violet; J. H. Watson, reddish purple, striped magenta and white; Ajax, pinkish white, very large; Crimson Bedder, deep pink; A. J. Bastock, purple rose, striped light rose, large; Charles B. Murray, bright purple, streaked rose, large and handsome; Agnes Kay, white centre, almost rayless, edged heliotrope; Edina, dark blue; G. C. Murray, bottom and side petals black, top petals sky blue; Gladys Finlay, pure white, rayless, with a clearly-defined purplish blue margin; Lady Knox, primrose, large; Maggie Mott, soft mauve; Moseley Perfection, rich yellow, superb; Mrs. T. W. R. Johnston, upper petals mauve, under petals shining black; Mrs. Morrison, dark mahogany, striped pink and rose, with a prevailing bronze sheen; Kathleen, white ground, delicately suffused blue, with a heavy purplish red edge; and James Pilling, white, broadly edged lavender. These are a few of the many, and might form the nucleus of a splendid collection. Bidens dahlioides was an attractive hardy plant, with pretty pink flowers resembling the Cosmea on long stems, which flowered freely from June till October.

To mention the hundreds of other plants seen in perfect condition would simply mean that all the most popular kinds, as well as those of unquestioned merit and charm which are not so frequently seen even in big establishments, would have to be named, and the notes would consequently resolve themselves more or less into the form of a catalogue. Space is too valuable in THE GARDEN for that. Suffice it, therefore, to say that any plant worth a place in the choicest collection can be procured from Artindale of Sheffield.

We noticed a very large collection of alpine plants—not miniature roots, but thousands of good clumps, which, we were assured, were the ordinary size they supply. Large plots were also devoted to herbaceous plants, and the firm rightly boasts of a fine collection of Phloxes, Pæonies, Pyrethrums, Primulas, &c.; while there were large plantations of early-flowering Chrysanthemums (of which 30,000 were sent out last spring) and Dahlias. The firm has also a branch nursery at Boston, where they grow Roses and many other hardy plants.

The glass department is not allocated to decorative plants, but to such as will produce crops for sale in the shops, and the three features of outstanding merit were Tomatoes Pioneer and Prolific, both raised by the firm, and which are remarkable for the freedom and persistency with which they yield fruits of perfect table size and quality, and the strain of Primula obconica gigantea, for which Messrs. Artindale are famous. There were perhaps 5,000 plants, with flowers varying in colour from pure white to deep crimson and as large as a five-shilling piece, and orders for plants were being despatched to many distant places, while seed orders for these are often received from South Africa and other countries. The nursery reflects credit not only upon Messrs. Artindale and Son, but also upon their capable and courteous manager, Mr. Lewendon. We presume that the firm would be pleased to welcome any of our readers who happened to be in the district at any time during the spring, summer, or early autumn months.

SOME OF THE VIOLA-BEDS IN MESSRS. ARTINDALE'S NURSERIES AT NETHER GREEN, SHEFFIELD.

ANSWERS TO CORRESPONDENTS.

FLOWER GARDEN.

PLANTING HERBACEOUS BORDERS (*Lover of Horticulture*).—You cannot do better than arrange the plants in groups, say, about three or six to each group, and thus create an effect impossible in any other way. In the wider portion you would have room for about three sets of groups, and in the narrower part two groups. This arrangement does not take any more plants than that of planting solitary specimens, and by employing select colours a more decided effect results. By arranging the groups alternately, more room is given them, and the surface soil is better furnished. Unfortunately, you say nothing of the nature of the soil, whether light or heavy, and this would have been helpful. For the back row employ single and double Sunflowers, particularly Helianthus multiflorus and H. m. flore pleno; Delphiniums Amos Perry, La France, Duke of Connaught, Mrs Creighton and King of Delphiniums; also the following Michaelmas Daisies: Aster cordifolius Ideal, c. Perfection, Novæ-Angliæ Mrs. Rayner, N.-A. pulchellus, N.-A. Mrs. S. T. Wright, Beauty of Colwall, Feltham Blue and Climax. By allowing a yard for each of these, the total length would be occupied. The second, or middle, row should contain Phloxes in pink, scarlet, and white and blue shades, also Anemone japonica in white, pink and red, Aster ericoides Desire, A. Novi-Belgii densus, A. diffusus horizontalis, Helenium cupreum, Trollius, Gaillardias, Oriental Poppies, Aquilegia chrysantha, single and double Pyrethrums, Flag Irises in variety and others; while the front row might contain Hepaticas, Anemone sylvestris, Helenium pumilum, Phlox canadensis, Pæonia tenuifolia fl.-pl., Christmas Roses, Campanula carpatica alba, C. c. Riverslea, C. White Star, C. muralis, C. Hendersonii, alpine Phloxes, Narcissus Emperor, N. Empress, N. Sir Watkin, N. Barri conspicuus, Iberis sempervirens and others. In existing circumstances you would find it a great help if you purchased "The Hardy Flower Book," by E. H. Jenkins, which is obtainable from our Publishing Department for 2s. 10d., post free. The book not only contains plans showing the arrangement of the plants, but is replete with lists giving their height, colour and time of flowering. You would find it invaluable.

THE GREENHOUSE.

SOIL FOR CHRYSANTHEMUMS (*G. D. R.*).—On no account use peat in the culture of Chrysanthemums, the main staple required for the potting compost being good fibrous loam.

DWARF WHITE JAPANESE CHRYSANTHEMUMS TO FLOWER IN NOVEMBER (*Hinckley*).—Ivory is a good white that makes a capital bush; Moneymaker is a beautiful cut-flower variety; Pearson's White is a useful white sport from La Triomphante; and Felton's Favourite is a well-known market white for November cutting.

INJURY TO PELARGONIUMS (*Ignoramus*).—The trouble with the Pelargonium leaves appears to be mainly due to the plants having been grown in a moist atmosphere for a time and afterwards exposed to a rather drier one. We do not think you need fear any trouble with them. The Cinerarias are attacked by green fly. Thoroughly fumigate the house or frame in which they are growing so as to keep this pest in check. Cinerarias are very subject to it and need frequent fumigation.

PROPAGATING PERPETUAL-FLOWERING CARNATIONS (*A. R. D.*).—You do not say what facilities you have for the propagation of the Perpetual-flowering Carnations, as where proper appliances exist they strike root very readily. With regard to the sand, ordinary silver sand is usually employed, though builders' sand will do if sifted finely and free from impurities. If you have but an ordinary greenhouse in which to strike the cuttings, perhaps you have a small propagating-case in the warmest part available for the purpose. Failing this, a box about six inches deep and placed, if possible, over the hot-water pipes, will do. Provision must be made for drainage by boring some holes in the bottom, over which must be placed some broken crocks. Then put on a good layer of sand, into which the cuttings must be inserted. After this a good watering must be given through a fine rose, and when the superabundant moisture has dried up, the box must be covered with a sheet of glass. This should be taken off every morning and, if necessary, left off for a time in order to dry the foliage, as, should this not be attended to, the leaves may decay. Directly the cuttings are rooted, the glass must be removed. When put in they must be shaded from very bright sunshine. Where there is a handlight or small propagating-case available, the cuttings may be inserted in pots, putting four cuttings around a pot 3 inches in diameter. The same general treatment must be observed. The best cuttings are furnished by the short-jointed side shoots; those that show a tendency to flower must be avoided.

TREES AND SHRUBS.

TO DESTROY AN OLD IVY ROOT (*G. D. S.*).—The large Ivy stem may be destroyed by exposing a few of the main roots, boring holes three parts of the way through and filling them with corrosive sublimate in solution. A hole slanting downwards and half an inch or three-quarters of an inch in diameter may be bored in the stem and treated in a like manner. Common household salt may be used for the same purpose as the corrosive sublimate, but it does not act quite so quickly.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Maidenhair Ferns for Cutting.—Where fronds of the well-known Adiantum cuneatum are in great demand for cutting, it is a good practice to cut a few plants completely down and allow them to get somewhat dry at the roots, afterwards placing them in a temperature from 60° to 70°, when they will soon push up new fronds, which as they grow may be gradually hardened off before cutting. If occasional batches of this valuable foliage plant are treated in this manner, good fronds may be obtained throughout the year.

Snowdrops in the Rock Garden.—Species of Snowdrops, such as Galanthus caucasicus, G. cilicicus, G. Elwesii and G. Imperatii, should find a place in the rock garden, as they help to brighten it up during the dull days of winter. The first named blooms during most of the winter, and G. Elwesii flowers quite a fortnight before G. nivalis, the common Snowdrop. Where any of these are already in possession, care should be taken that they are not smothered by any vigorous subjects which may be growing near them.

A Good Winter-Flowering Shrub.—The value of Pieris floribunda or Andromeda floribunda as a hardy winter-flowering shrub does not appear to be generally appreciated. It may be due to the fact that it is rather a slow grower, although in a small state it is very ornamental. It commences flowering now, and often continues till February or March; but sprays open freely in water and keep fresh for several weeks. Like most other North American shrubs, it likes peat, but will thrive in soil suitable for Rhododendrons, and when planted should be made firm.

A Beautiful Winter Heath.—Although Erica carnea is often spoken of as the Winter Heath, it does not usually reveal the full beauty of its flowers until February is here. Much earlier and quite hardy is E. mediterranea hybrida. This we have flowering now in a position facing north and in ordinary well-drained soil, to which neither peat nor leaf-soil has been added. Its flowers are of a charming rose pink colour, and it makes a neat tuft of growth about nine inches high, exceeding this a few inches with age. This winter-flowering Heath deserves to be much better known than it is at present.

Pruning Evergreens.—There are a number of evergreen shrubs that require a certain amount of pruning to keep them in a symmetrical shape. Advantage may be taken of this time of the year, as there is always a demand for such material for decoration, and the one operation serves the two purposes, as such material keeps fresh for a long time if placed in a cool position. Unless the shrubs are intended to form a hedge, cutting back to a flat surface is to be avoided. It is much better to remove the projecting branches by cutting them right out, rather than form a wall-like appearance as we often see.

Rose Gloire de Dijon.—Some beautiful blooms of this old Tea Rose gathered from the open garden on Sunday last, the 7th inst., reminded us that this is usually the earliest of the double Roses to flower and the last to finish. Often we have had good blooms before May had departed, and we have yet to find a new Rose that will, even in a season such as this, give us flowers during eight months of the year. Although raised so long ago as 1850, we are glad to find that the sterling qualities of Gloire de Dijon are still recognised. It is a good rambler and very sweetly Tea-scented; hence we can well afford to overlook the fact that some of the flowers come with divided centres.

Perpetual-Flowering Carnations.—These charming flowers of winter bid fair to become almost as popular at this season as the Rose is during the summer months. The splendid exhibition held by the Perpetual Flowering Carnation Society in London last week, and a report of which appears on another page, served to draw attention to the usefulness and the charm of these flowers. Some of the dinner-table decorations were very good indeed, especially under artificial light, a test that many so-called dinner-table decorations do not emerge from successfully. It was gratifying to note that the public attended well, and thus showed their appreciation of the work the committee is doing.

A Useful Berried Shrub.—One of the brightest shrubs just now is Cotoneaster Simonsii. It has nothing to its discredit except that it is by no means rare. If it were difficult to obtain or grow, it would be at once placed in the front rank of shrubs for winter effect. This Cotoneaster will thrive in almost any soil or situation, is particularly good for towns, and rarely fails to produce a heavy crop of its bright orange-coloured berries, which hang on the branches sometimes as late as May and retain their colour the whole time. It grows fairly rapidly, but can be kept in bounds by occasionally shortening back those growths that are too venturesome.

"The Garden" in 1914.—We hope next week to be in a position to make an announcement that should be of considerable interest to our ever-increasing number of readers. We have been able to secure an unparalleled list of authors and articles for the coming year, some of which we hope to announce in our next issue. The reputation for authoritative articles and artistic illustrations which THE GARDEN has enjoyed ever since its foundation over forty years ago has increased year by year, and no effort will be spared to keep this reputation. The contributions which have been already promised for 1914 enable us to look forward with no small degree of confidence to a brilliant New Year. We take this opportunity of expressing our warmest thanks to a very large number of correspondents who have written to us acknowledging their indebtedness to and cordial appreciation of THE GARDEN.

CORRESPONDENCE.

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

Some Good Chrysanthemums.—I have pleasure in sending you a photograph of a group of our 1913 exhibition Chrysanthemums. These plants were rooted in the months of January and February in a cold greenhouse, and proved very successful throughout the whole season, being free from rust and maggot, and retaining their foliage from the rim of the pot upwards to the flower in a splendid condition. You will notice that the blooms are a fine size, but the largest flowers were those of F. S Vallis, R. Vallis and F. Payne. —A. E. LUTTMAN, *The Gardens, Crookley Park, Horndean, Hants.*

A Little-Known Rose.—Referring to the question of a little-known Rose called Donarte de Elvira, mentioned in your "Correspondence" column on page 595 of November 29 issue, I find, both in Pernet-Ducher's and Ketten's catalogue, what, by the description, is evidently the same Rose, but named Duarte de Oliveira (Brassac, 1880). It is described as a very vigorous climber, floriferous and of coppery salmon rose.—CHARLES B. BRAGG, *Handsworth, Birmingham.*

—— I was pleased to see a note upon a variety your correspondent calls Donarte de Elvira (page 595). It is a great favourite of mine, but lost to me just at present. I believe the correct name is Duarte de Oliveira, and it was sent out by M. Brassac in 1880 or 1881. It is given as a cross between Ophirie and Rêve d'Or, and those who know these two varieties can form a good idea of it when I say it partakes of both parents about equally. It is strange how some of our useful old Roses get missed; and yet at that time of day M. Brassac was well known as one of our best French raisers.—A. P.

—— I am delighted to see that your correspondent in THE GARDEN of November 29 is writing in praise of a little-known Rose that is a great favourite of mine; only may I venture to correct her in the spelling of the name, which should be Duarte de Oliveira. I supposed it to be Spanish, but was told by a friend who had been in Portugal that it is a great favourite in Portuguese gardens. It came to me many years ago among some Roses from France, and I was so delighted with it that I ordered it again and again, both for myself and for many of my friends who admired it. It is a Noisette, and here in North Notts it does better on a wall than climbing over poles. It grows very quickly, and is constantly covered with flowers of a beautiful shade of salmon pink. Everyone who sees it admires it and wants to know its name. I think it such a pity that so few English nurserymen grow it.—AGNES MELLISH, *Hodsock Priory, Notts.*

Canary Seed as a Christmas Decoration.—I think some of your readers may not know the very fresh and dainty Christmas "greenery" that can be obtained by sowing canary seed now. I always sow it about three weeks before Christmas Day in small bowls and vases not more than 4 inches to 6 inches deep. I fill these with coarse sand to about an inch below their rims, soak them thoroughly, and sprinkle evenly a layer of canary seed on the surface; then put them in a warm, dark place, keeping them daily moistened with tepid water till the little pink tops are about an inch high. Then I bring them to a sunny window, and, turning them round daily (so that they grow up evenly), I have the pleasure of watching their rapid progress to clusters of bright pink and green foliage. When grown, they last another three or four weeks in good decorative condition, even in rooms lighted by gas. By that time I have another batch (sown at the close of the year) to take their place. Sometimes I stick some early cut Snowdrops among them, with good effect. Their bright, fresh, verdant hue is very pleasing to the eye in the dark winter days.—ANNE AMATEUR.

EXHIBITION CHRYSANTHEMUMS AT THE GARDENS, CROOKLEY PARK, HORNDEAN, HANTS.

Measuring Cyclamen Flowers.—In reply to Mr. Blair *re* the measuring of a Cyclamen flower, page 594, issue November 29, I measured it by stretching the bloom flat. Perhaps it would have been more explicit had I said each petal measured 3 inches; but I was tempted to measure them that way, and under the circumstances I think most people would have done so; for, take a plant carrying seventy-one fully-expanded blooms, some of them with six and seven petals, and the plant measuring 21 inches through, naturally one would say, "I wonder how much they measure across"; hence my meaning 6 inches from tip to tip. But as for growing old corms, I do not think I shall ever do that, because I have never seen the blooms of old corms come up to those blooming the first time, and we are quite satisfied with seedlings here. I have measured several of our plants, and find some are 22 inches and the majority 18 inches through. Of course, they have not yet finished developing. I counted the leaves on one plant, and found it was carrying 115, the largest of them measuring 4 inches in diameter. So all the time we get those results, no old corms for us.—F. C. WILLIE, *The Gardens, Great Walstead, Lindfield, Sussex.*

Rosemary and Carnations.—Noticing your remarks about foliage for associating with cut flowers, especially of a light nature, on page 581 of November 22 issue, I might say that Rosemary is an ideal plant in the Sunny South, but in northern climes this cannot be depended on. This year a trial was given to an annual under the name of Artemisia sacrorum viridis [Artemisia annua.—ED.]. Seeds were sown in April, and by August the plants had developed into fine Cypress-like bushes in the open borders, and have since, almost daily, yielded quantities of foliage. This is scented, is very light, and mixes well with almost any flowers, hardy or tender, although it ought never to be associated with flowers that are fragrant, otherwise their natural fragrance is apt to be somewhat lost. This plant does not seem to be in the Kew lists. Is it known under another name? It is a plant that ought to be widely known and widely grown. Eucalyptus, especially E. globulus, grown in the open during the summer, is also a welcome foliage plant suitable for cutting and arranging with cut flowers, as also are the long, feathery growths from Lupinus arboreus. There is yet another subject that is ofttimes forgotten, viz., Lemon-scented Verbena (Lippia). This, raised from cuttings early and planted out in a warm border, provides a lot of fragrant foliage, at this season.—H. R., *Twickel, Holland.*

Plants Flowering Late in Yorkshire.—Much has been written to the papers about plants in bloom so late in the year. How about the following, now in bloom in my garden in this north-east corner of Yorkshire, eight or nine miles from the sea and 300 feet above it? Geums, Violas, Roses in quantity, Chrysanthemum maximum Wynward, Berberis Darwinii, B. Aquifolium, Arabis flore pleno, Doronicum, Veronica repens, V. Bidwillii, Aubrietia, Arabis Billardieri rosea, Achillea umbellata, Lithospermum prostrata, Linum perenne, Andromeda floribunda, Arbutus Unedo, Viburnum Tinus, Alyssum saxatile flore pleno, single Alyssum, Sweet Alyssum, Ionopsidium, Campanula muralis, C. persicifolia, Potentilla aurea, Armeria laucheana, Dianthus atrorubens, D. graniticus, Primula capitata, Sedum spurium, Gaultheria procumbens, Polygala Chamæbuxus, Phlox verna, Santolina Chamæcyparissus, Gentiana acaulis, Anthemis Aizoon, Acæna microphylla, Cyclamen neapolitanum, Hutchinsia alpina, Primula cashmeriana, Antirrhinum, Primula Double White, Helianthemums, perennial Sweet Pea, Erigeron mucronata, Meconopsis cambrica flore pleno, Clematis Mrs. Moser, Jasminum nudiflorum, Iberis sempervirens, Hieracium aurantiacum, Cerastium Biebersteinii, early-flowering Chrysanthemums, Ericas in several varieties, Pernettyas, Bunch Primroses by thousands, Pears and Strawberries.—J. J. BURTON.

WHICH IS THE GUERNSEY LILY?

I MEAN the *old original*—the variety that has given rise to all the myths and tales that are told to account for the introduction of this Japan (?)—Cape of Good Hope bulb into the little island of Guernsey, where, as we say in my part of the world, it at once made itself at home and grew away "like squitch."

Whether it is Banbury cakes, or Shrewsbury cakes, or Everton toffee, or the Guernsey Lily, there is a sort of historical satisfaction in being quite certain which *is* the "old original." It adds a something that nothing else can. Which, then, of all the many Nerines is the true Guernsey Lily? I used to think it was N. sarniensis, and that N. sarniensis was in colour a sort of pale orange red. In Nicholson's Dictionary it is said to be "pale salmon coloured." This summer I bought some of what was said to be "the real thing" from the island itself, and the other week, when I paid a visit to Colesborne to see Mr. Elwes and his magnificent collection, I took him a flower of my new purchase, which he at once pronounced to be "rosea." Since my return home I have gone further into the matter, and I have turned up the *Botanical Magazine*, where, on Plate 294, the Guernsey Lily, or, as it was then called, the Amaryllis sarniensis, is pictured. There it is undoubtedly rose-coloured, and in the explanatory text the description of Dr. Donglass (*sic*) is quoted: "each flower in its prime looks like a gold tissue wrought on a rose-coloured ground." About a year ago a copy of Dr. James Donglas's "Monograph on the Guernsey Lilley" came into my possession, and so I am able to verify this allusion in the *Botanical Magazine*, and also to add the interesting information that the author claims to have given the name N. sarniensis. He says on page 8 of the enlarged second edition of 1729: "To this island likewise we owe its common *English* name, the *Guernsey Lilly*, which I have ventured to render *Lilium Sarniense*, on the authority of the Learned *Cambden*, who tells us, that Sarnia is the Latin name us'd by *Antoninus* in his *Itinerarium Maritimum* to express the island of *Guernsey*." (The italics are in the original.) As Dr. Donglas gives a chronological list of names from 1635 to 1726, and the title N. sarniense does not appear, I presume his statement is correct. If so, then the true Guernsey Lily is rose-coloured.

If there was nothing more to be said, I would consider the question as settled, but it is not so. There seems to be the possibility of a second "old original" having come to the island *viâ* Paris, if the "Narcisse de Japon" of P. Morin was a true Nerine ("Remarques nessaires pour la Culture des Fleurs," edition 1667, page 24). Or if John Rea is to be trusted ("Flora, seu de Florum Cultura," 1665, page 78), there seem to have been, even in those early days, more varieties than were known, except by hearsay in England.

Hence it seems to me that even then (*c.* 1660-70) the Guernsey people may have had not only sarniensis rosea, but also corusca and something akin to undulata, and that the name Guernsey Lily was from the first not so much specific as generic. Is there, then, any *one* "old original"? JOSEPH JACOB.

FORTHCOMING EVENTS.

December 15. — National Chrysanthemum Society's Executive Committee Meeting.

December 18.—Linnean Society's Meeting.

THE ROSE GARDEN.

ROSE-GROWING IN TOWN GARDENS.—II.

IF the Rose were as easily cultivated as the Marigold, half the enjoyment of growing it would be gone, and certainly we should not all appreciate it as we do now. Fortunately, then—or unfortunately if you prefer it—the Rose is more subject to the attacks of insects and suffers from a greater variety of complaints than any other flower of our gardens, and in this respect the town-dweller is especially favoured. He cannot escape these pests entirely; but, by observing a few simple rules at the commencement, he can prevent them from getting the upper hand, and so lessen the amount of work entailed subsequently. I have already pointed out the advantage of having the beds as far as possible in the open, away from walls or fences. The neighbourhood of trees must also be avoided. Sunshine and air mean health and strength, and strong plants are better able to resist disease. Another important point is that the beds should not be made too wide. Three feet is a convenient width, which will just accommodate a double row of trees and leave room for a narrow border of Violas or some other edging. So planted they are more easily accessible, and can be better looked after than where the bed is a wider one.

In towns especially we must avoid those varieties with weak constitutions, or which are especially subject to mildew. Nor is it of any use to nurse sick plants. It is better at once to get rid of them and fill their places with healthy trees which will start fairly. Old and worn-out specimens that have not bloomed satisfactorily are also best got rid of. Usually these have exhausted the food in the immediate neighbourhood of their roots, which have penetrated deeply into unprepared soil and are practically out of reach of fertilisers. Do not yield to the temptation to carpet the beds with other flowers. Remember, the continual use of the hoe throughout the growing season is quite as important as manure. Lastly, give ample room between the plants.

The greatest handicap of the town gardener is smoke. Frequently it is present in the atmosphere to such an extent that in dry weather the leaves become coated with a layer of grime. Now every leaf has many thousands of tiny holes in it, called stomata, and through them the plant absorbs the necessary gases and discharges superfluous moisture, just as we do through the pores of our skins. It will be seen, then, how important it is that the leaves should be kept clean. This is one reason for using the syringe freely and frequently.

Of insect pests, the aphis easily takes first place, both by reason of its ubiquity and in point of numbers. It has been calculated that the great-grandchildren of one aphis might number over sixty millions if all could find standing room and were left unchecked. Fortunately, the death rate is high; but it is hard work to keep it uniformly at 100 per cent. in our own gardens and to deal with alien immigrants as well. Steel the heart and soil the fingers. It may be a messy job, but is a very effective way of keeping them down. One quickly becomes expert at running over a growth with finger and thumb, and, if this be done regularly, a great many trees can be looked over in a few minutes; but the hand must always be supplemented by the syringe. While we are looking for aphis we shall, of course, catch caterpillars, and here hand-picking is by far the most effective remedy. Wherever a leaf is seen to be curled or eaten, go carefully over the whole tree. Moths never lay their eggs singly. One of the most harmful of larvæ is that of the sawfly, which does considerable damage to standard Roses by boring into the pith. To prevent this, the cut parts should be painted over with enamel when the trees are pruned. Cuckoo spit is often troublesome in towns, and the little green insect must be caught and slain before he has time to blow bubbles with more of the precious sap. Earwigs must be looked for in the blooms. These are all the insects the grower need worry about. Ants will not trouble him if his beds are hoed regularly.

The worst enemy of the town gardener is mildew. This usually makes its appearance towards the end of July, but long before then one must take active measures to combat it. It is best, therefore, when spraying, to use a preparation that is equally effective for dealing with mildew as well as aphis, and there are many excellent combined insecticides and fungicides. If expense be a consideration, a very cheap, easily-made and effective remedy may be made up as follows: First make a strong stock solution by dissolving Lifebuoy Soap in boiling water. To two gallons of water add an ounce of liver of sulphur, previously dissolved in a pint of hot water, and as much of the soap solution as will make it lather freely when stirred. The quantity will depend on whether the water be hard or soft, but the latter should always be used for preference, rainwater if procurable. Spray the under sides as well as the tops of the leaves, and syringe with clear water about two hours afterwards.

Black spot, fortunately, is as fond of country as of town life. Regular spraying with liver of sulphur will prevent its appearance. Where a plant is infected, it is best to burn it at once, rather than run the risk of the disease spreading. My next article will deal with some of the Roses best suited for town culture. P. L. GODDARD.

(*To be continued.*)

IN A HAMPSHIRE GARDEN.

SOME OF THE NEWER DECORATIVE VARIETIES.

(*Continued from page 615.*)

Irish Fireflame (Hybrid Tea, Alex. Dickson and Sons, 1913).—I have very little to add to the notes that I have contributed on more than one occasion to your columns concerning this Rose, except to say that the result of growing Irish Fireflame for the past season has only been to add to my admiration of this very beautiful Rose. It is still producing buds and flowers; but, of course, the brilliance of the colouring of the normal flower is lacking somewhat in these December blooms. It proves, however, that the ground colour is yellow, and not pink as in Irish Elegance. I confidently expect to pick flowers of this variety (if Jack Frost does not intervene) at Christmas. No lover of single Roses should be without a plant of Irish Fireflame, the most beautiful of all singles.

Lady Dunleath (Alex. Dickson and Sons, 1913).—I made an especial note of this variety last year at Newtownards, and I am glad that Messrs. Dickson have been able to put it into commerce this year. It is a lovely Rose, with all the refinement of a pure Tea, coupled with the vigour and shape of a Betty, only fuller, with more petals. To call it a yellow Betty hardly does it justice, for it has, I think, more shape and substance. Outside of the petals creamy white, with a deep yellow centre. It is a delightful Rose. The plants carried plenty of bloom, and it is bound to

A PARTIALLY-SHADED BANK CLOTHED WITH ST. DABEOC'S HEATH (DABŒCIA POLIFOLIA).

become very popular, especially with the ladies. It is fragrant.

Lady Greenall (Alex. Dickson and Sons, 1911).—The note of distinction about this Rose is very marked. Its exquisite shape accounts partly for it, perhaps, but it is the *tout ensemble* that is so pleasing. "Like a queen's her golden head" is a line that always occurs to me in connection with this Rose. It is a good grower, the flowers held very erect on stiff, long stalks, with a strong Tea perfume. With me almost, if not quite, free from mildew. Colour not unlike the last named—that is, white or cream—with yellow or gold in the centre of the flower.

Lady Hillingdon (Tea, Lowe and Shawyer and G. Mount, 1910).—Undoubtedly the best bedding Rose of its colour, namely, a good, sound golden orange and deep apricot. Very free-flowering, free from mildew, a good grower, but the flowers are not held quite upright. It makes an excellent standard, a most beautiful bed, and one of the best of button-holes. Now that it is down to normal prices it should be in every garden. Those who want it should order it at once, as the stock is very nearly sold out for this season, so I am told.

Lady Margaret Boscawen (Alex. Dickson and Sons, 1911).—Another very pretty button-hole, both in the half-open bud and fully-expanded flower, as the latter is not too large. It is a soft pale flesh colour, very delicate and pretty, a good grower and opener, with a delicious scent.

Lady Mary Ward (S. McGredy and Son, 1913). — This is a wonderful piece of colouring very difficult to describe, burnished copper and deep orange, almost a bronze shade. A very fine bowl of it attracted a great deal of attention at the National Rose Society's Autumn Show. The flower is of good shape for a decorative variety, and the plants can be placed somewhat closer together than is usual, as it is not a vigorous grower. Lady Roberts was once described by a Rose-loving parson as "William Allen Richardson gone to heaven"! Lady Mary Ward might be described as Lady Roberts gone to the same place. It is quite unique in its colour-scheme.

Lady Pirrie (Hugh Dickson, 1910).—This Rose has improved very much with me this year, both in colour and growth, so much so that one can fairly call the latter vigorous. No doubt it suffered (as so many of these new Roses that strike a distinct note do) from over-production, and it was not too vigorous to start with; in fact, one would almost have called it a poor grower. But now that it has had time to get established, it is quite a different matter, and it makes an ideal bedding Rose. The varying colours of its petals are delightful, and there are few more beautiful Roses for table decoration. Salmon overlaid with a deep copper red, mixed with fawn and yellow; they are all there at different stages. The flowers are medium size and not very full, but they open well in all weathers, and stand the rain a great deal better than most Roses.

Leslie Holland (Hugh Dickson, 1911).—This makes a fine bedding Rose. The colour is very fine in the young flowers.

Little Dorrit (Tea, Paul and Son, 1912).—A very pretty China Tea of good growth. Buff and carmine tinted—a pretty combination.

Mme. H. de la Valette (China, Schwartz, 1910).—This is another China of even deeper colouring than that old favourite Mme. Eugène Resal, yellow, shaded coppery red of the brightest shades. A good grower and very free. Can be recommended.

Mme. Jules Bouche (Croibier et Fils, 1911).—This is a pretty Rose of a refined Maiden's Blush colouring, very free, of good habit, and the flowers of quite good shape.

Mary Countess of Ilchester (Alex. Dickson and Sons, 1909).—A very free-flowering, vigorous-growing bedding Rose of bright carmine colouring in the younger flowers and buds, shading to a crimson carmine in the larger, fully-open flowers. Fragrant and nearly free from mildew.

Margaret Molyneux (Alex. Dickson and Sons, 1909).—Named after my eldest daughter. A beautiful decorative Rose that flowers in large trusses on long footstalks right up till the frost. Deep saffron yellow in the bud, fading to a bright but pale cream in the open flower. A Rose of few petals, but delightful if cut young and used for the house. Sweet-scented and a good grower.

Melody (Alex. Dickson and Sons, 1911).—A Hybrid Tea with a lot of Tea blood in its veins. A beautiful Rose with a somewhat curious name. I suppose the idea is all right—"If only I could speak, what a song I could sing." My plant has pleased me so much that I am making a small bed of it, and there are not many Roses that I can promote to that distinction in my small garden. A real good yellow, of a lovely Tea shape, deep primrose shade in colour, fine growth and mildew-proof. A table of this Rose at the National Rose Society's show in the autumn won first prize.

Moonlight (Rev. J. H. Pemberton, 1913).—This is an entirely charming Rose, judging from the numerous exhibits staged by the raiser, and well worthy of the gold medal of the National Rose Society, which it obtained at the Autumn Show this year. It is described as a semi-climber, obviously a seedling from Trier or from the same strain. I noticed one of your contributors seemed to think the National Rose Society was making a great mistake in giving such a Rose a gold medal. Why, I wonder? The National Rose Society is out to encourage all kinds of Roses, not exhibition varieties only. A Rose that can give us its flowers in such profusion and of such good quality in the autumn as Moonlight does is very welcome, and its raiser should certainly be encouraged to go on and give us something more, even better if possible. If he does, I am sure other gold medals will be his reward.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

THE HEATH GARDEN.

A BANK OF ST. DABEOC'S HEATH.

IN order that hardy Heaths should be seen to their best advantage, it is necessary that they should be planted in a semi-wild place where they may assume their natural beauty. To grow Heaths in circular or angular beds is to deprive them of half their charm. Most of the Heaths will succeed under the partial shade of trees, where they should be allowed to spread more or less unchecked in all directions. St. Dabeoc's Heath is one of the most desirable of them all. It is not an Erica, although it is closely related to that genus, but is known botanically as Dabœcia polifolia and Menziesia polifolia. Like most other Heaths, it thrives in a sandy peat soil to which a fair quantity of loam is added. It is well suited for planting on the fringe of a shrubbery or woodland, while for growing over rockwork or for clothing a bank it has few equals. Our illustration depicts a bank clothed with St. Dabeoc's Heath in Messrs, James Box's rock garden at Lindfield, Sussex. Here the white, rose and purple forms of this Heath grow so freely that they have to be kept within bounds, while in the long season from early June till late September the flowers are freely produced.

ROCK AND WATER GARDEN.

THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

(*Continued from page* 608.)

Selection of Stone.—This is frequently a matter of the locality in which the work is being carried out, and is controlled by the matter of cost, as it is hardly probable (and rarely advisable) that one would import a foreign stone into a district abounding with natural rock of any sort. Opinions differ very greatly as to the best stone to use, and I think it depends to a very great extent on the point of view from which you approach the question; certainly, much on the class of work for which it is to be used.

We had a fine collection of samples to study during the Royal International Show at Chelsea, 1912, and the Royal Horticultural Society's Spring Show, 1913, and a careful comparison leads me to place them in the following order of merit: The winner of the first prize in the 600-feet class at the 1912 show and a gold medal at the 1913 show (Mr. Wood) used a grey limestone, collected in beautiful weather-worn pieces in a certain district in Yorkshire. The advantages of this stone are so obvious that it seems unnecessary to recount them. Especially is it suitable for small rock gardens; indeed, it is hardly suitable for bold or extensive work, as it is difficult to obtain anything in the nature of large pieces. The cool grey colour, porous nature and weathered appearance all combine to make this stone one of the most attractive, both as regards appearance and for plant culture. The grey limestones used in the exhibits of Messrs. R. Wallace and Co., and Mr. Clarence Elliott in the 1913 show, are in many respects so similar that they are certainly worthy of mention in association. Moreover, they are both obtainable in large pieces, and therefore more suitable for bold work. Next in order I placed the oolitic limestone from the Purbeck Hills, used in two of the larger of the "trade" or non-competitive exhibits at the International Show, 1912. I do not think there exists anything more beautiful for rock gardens when in association with water than this stone. It is an easy stone to use, as one can scarcely make the mistake of placing it in any but the right position. It never looks new, and, so long as it is used the right way up, *never* seems to be asking itself how it comes to be in its present position. Even when the inevitable disaster occurs, and a few pieces of it get left lying quite bare, through the death of the plants surrounding them, it is sufficiently picturesque in itself to be quite unobtrusive, which is more than one can say of many other stones. It can be obtained in pieces of considerable size, and so used for large or small rock gardens. The next three stones run each other very closely on points, although each has its distinct advantages. One is the well-known Bargate stone, excellent for effect and plant-life, but very difficult to obtain in pieces sufficiently large for really effective work; another, Derbyshire sandstone or grit, that can be abnormally ugly unless carefully used (which it rarely is). To all appearance this stone is too hard for rock plants to thrive thereon, or even vegetate, but experience has taught us that they will succeed admirably on or among it. It is obtainable in any-sized pieces required, up to eight-ton blocks. For big, bold work it is invaluable, and very cheap. Many notable rock gardens have been constructed with it, particularly, I might mention, that at Friar Park, Henley, and (I believe) also that at Warley Place. Against Sussex sandstone I have two objections. The colour when new is very distasteful, and even when weathered it is likely to fritter away in parts and leave ugly yellowish patches glaringly exposed. In every other way it is an excellent stone; plants love it. Care must be taken in using it that it does not become rigidly "beddy" in appearance. It usually comes out in thick, flat slabs that must be used flat, and the consequence is that it sometimes becomes monotonous in outline. There is also a good Yorkshire sandstone closely allied to the Derby grit previously mentioned, that is very useful for bold, massive work, but it is not the most desirable stone in association with water. Of all the stones used in the International Show, I liked the Kentish ragstone the least. Cold, hard, undesirable in colour, its only advantage seems to be that it is a cheap stone to use at home. It should never be sent far away. There are, however, some grades of this stone much more suitable than others. There are other fine stones, notably on the Western borders of Oxford, in parts of Gloucestershire, and many others; but the range I have given will serve for the purpose of comparison.

Where the intention is to utilise a suitable site for the introduction of picturesque *rock* effects, the principal requisite is stone of bold, rugged formation that is sufficiently susceptible to climatic and atmospheric action that it will take on a weathered appearance quickly, and yet is not affected to any great extent by frost. If, however, the intention is to cultivate alpines, a softer stone is desirable, and a slight frittering away of particles is really desirable for many plants. Needless to say, as so many alpines revel in limestone, this is the most serviceable. Indeed, there is a limited number of plants that will not thrive without it.

GEORGE DILLISTONE.

Colchester.

(*To be continued.*)

CORYDALIS THALICTRIFOLIA.

WHEN this plant was shown for the first time in this country some ten or twelve years ago, it was welcomed as a very promising subject for the cool greenhouse. Since that time, however, it has proved its worth in the open rock garden, for if planted out in the spring in a favoured nook it quickly establishes itself, and can be relied upon to throw up its bright yellow spikes of flower in good numbers. Moreover, the foliage of this plant is very decorative, and it never looks better than when draping boulders of rock, particularly if the leaves have assumed that bronze tint peculiar to this species. As a greenhouse subject this Corydalis is of great value, both for pots and baskets. It seeds freely, and the seeds germinate readily under glass if sown quite early in the year.

A BEAUTIFUL PRICKLY THRIFT.

(ACANTHOLIMON VENUSTUM.)

THIS is one of the most attractive of the Prickly Thrifts, much more refined in appearance than its more ordinary relative, Acantholimon glumaceum. The foliage is narrow, somewhat resembling that of a Dianthus, and when the new leaves first form they are quite soft and flexible. As they mature, however, they become intensely rigid and spiny, and are as sharp as a needle at their points. The colour of a tuft of this plant is a soft greenish grey, tending more to grey as the plant increases in health. The flowers, which

CORYDALIS THALICTRIFOLIA FILLING A SHELTERED NOOK IN THE ROCK GARDEN.

are of a bright rose tint, are produced in July, a point of considerable value when so many of our choice alpine plants are early flowering.

The arching spray of buds is curiously suggestive of a grass plume, while the cinnamon-coloured calyx, which finally develops into a saucer-shaped frill, persists for some time after the flowers have fallen. Here at Woodford it thrives in a gritty compost to which old mortar has been liberally added, in a position fully exposed to the sun, and protected from winter wet by a roof glass. Last year in M. Dallenges' garden at Chêne-Bourg, Geneva, I saw several magnificent tufts—by far the finest I have ever seen—revelling in the torrid sunshine of that district and aglow with numerous sprays of flowers.

The propagation of this plant is difficult, since it roots very deeply, with almost fibreless thongs. It is said to "layer" if outstanding pieces are pegged down and fine soil placed upon them, aided by a piece of stone to retain the moisture in the soil, though so far I have not tried this plan. My own plants originated from root cuttings about ten inches long, which, after being firmly planted in the above-mentioned compost, were tended carefully for some three or four weeks and have now made quite a nice colony. It is said to come well from cuttings when the necessary skill has been attained, while seed, when it can be procured, is doubtless the best means of securing strong plants. It is said to suffer during severe cold, and if caught by a cold snap while lying wet may be killed outright. Probably the roof glass already mentioned, coupled with perfect drainage, will minimise any untoward accident of this kind, at least in these more southern counties. It is a subject worthy of all the care that one may bestow upon it. R. A. MALBY.

ACANTHOLIMON VENUSTUM, A USEFUL PRICKLY THRIFT FOR THE ROCK GARDEN.

THE GREENHOUSE.

SEASONABLE NOTES ON CARNATIONS.

THE Editor requests me to send a few notes from time to time on the fascinating subject of Carnations, and as a preface I wish to ask readers to peruse these notes as being tempered with the exigencies of a Scottish climate at least as difficult as that of the Midlands. At this time of year Perpetuals are by far the most interesting section, and from which we are reaping the fruits of a prolonged and exacting attention, while many of us are preparing for the harvest of another winter.

At the time of writing, the bulk of my own cuttings are rooted. Propagation begins early in October, the cuttings receiving stove treatment. Roots are emitted in a week in the case of quick-rooting varieties, and generally they are ready to be potted in a fortnight. The cuttings being so brief a time in the propagating-house, the soft growth prophesied by some folks as a result is never apparent. I am fortunate in having pits just suited to the simple requirements of the little things. For standing them on, a stone stage, which keeps them cool at the root and near enough to the glass to negative etiolation, is an item of first-rate importance. The ventilation is of a kind that on fine days air can be admitted to play all around them, or on cold ones and during high winds shut off altogether. I know that in spring many growers bring on young stuff in rather warmer and less well-ventilated structures, but during the winter such treatment would inevitably ruin the plants. By the time this is printed the best-rooted plants, which are those which have rooted round the balls, all in 4-inch pots, will have been topped, the hard, cold treatment being just the thing to enable them to break strongly and freely. The other stages of the structure in which are the young plants contain the choicest of the flowering stock, the remainder occupying a much larger structure along with Chrysanthemums. These are freely ventilated unless the weather is unsuitable, and a slight heat in the pipes by night and by day secures a buoyant and dry atmosphere, the two chief requirements to hinder the development of leaf-disease, and they also enable the plants to keep on the move, though slowly, and the forward buds to expand in a kindly manner. For the next six weeks—the most trying in the Carnation cycle—manure, if applied at all, must be meted out with great judgment. Nitrogenous manures especially, which if estimated by the appearance of the foliage might be concluded to be valuable, should *not* be used, a flaccid condition of the flowers, accompanied by a weak calyx that more often than not splits, being results which follow their use. Another cause of weakness in some varieties is the production of too many growths, which if left without reduction either do not flower or only yield small blooms. Lady Alington, May Day, Mikado, Britannia and Mrs. F. Burnett are varieties which transgress in this way, and these should be examined and thinned two or three times in the period from October to May. Those left in a very short time increase in vigour. This is a little cultural expedient which is easily overlooked, but it is a very important one where only one set of plants is grown to provide an uninterrupted supply of flowers. In cold weather lower the temperature to 45°.

Malmaisons must be kept as quiet as possible until the turn of the year, the season's layers being kept rather drier at the root than two year old plants. When the latter are allowed to become and remain dry for too long a time at the roots, the old foliage gets desiccated, turns yellow, has to be stripped off the stems, and the plants on the whole are much the worse for the experience. It is just the distinction between not overdrying the plants and giving a little too much water that the enthusiastic grower has to observe. I standing in the same structure with Perpetuals, the warmest part and the least ventilated should be given up to Malmaisons. Both sections need to be vaporised at frequent intervals as a preventive measure against aphis infestation. Borders established in outdoor beds may require weeding after the unusually fine weather. The spade is an efficient implement for the purpose at this time of the year. The method to follow consists in pushing the spade along about two inches under the soil surface, transposing each spadeful so that all the little weeds are buried deep enough to destroy their vegetative powers, and at the same time leaving a surface of clean, fresh soil. Stock being wintered in frames should be ventilated always. The severest frost does not harm the plants, but a stagnant, damp atmosphere does. Care should be taken that the pots are covered over the rims to secure them from breakage.

Tyninghame. R. P. BROTHERSTON.

SINGLE AND DECORATIVE CHRYSANTHEMUMS.

THERE is a definite charm and beauty associated with Chrysanthemums, for they contribute largely to our pleasure and enjoyment in brightening our homes and gardens at one of the dullest periods of the year.

The cultivation of decorative and single Chrysanthemums does not materially differ from that generally given the other sections of this family. They may with advantage be propagated later, splendid plants being obtained by propagating in March. A fruitful source of failure is propagating too early and starving the plants before they reach their flowering pots. Propagated at the date named and grown coolly, giving successive shifts as the pots become well filled with roots, and employing loam of good quality, success is readily assured. The soil for the final potting is the most important, and should consist of four parts good fibrous loam, with a third part each of leaf-soil, sand and horse-manure, and a 4-inch potful of soot, bone-meal and an approved fertiliser, such as Thomson's, Clay's or Bentley's, to a well-heaped barrow-load of soil. The compost should be thoroughly mixed and used in a condition that admits of firm potting, and, except in the case of specimen plants, pots having an internal diameter of 7½ inches to 8 inches are quite large enough.

The Best Singles.—One of the earliest singles to open is Joan Edwards, a variety with stiff, erect stems, and flowers of a good rose shade. Mary Richardson follows immediately with reddish salmon flowers of a most attractive shade that is particularly effective under artificial light. This shade is practically repeated in Lady Furness, a variety that flowers in December, and this season the plants promise to be exceptionally good. All the Pagram family produce good decorative single flowers. These include Edith Pagram, rich pink, with white zone; Mrs. Tresham Gilbey, pure yellow; and Bronze Pagram, reddish bronze and yellow. Mrs. W. Garner is an improved and larger form of the latter, while White Pagram gives pure white flowers. Sylvia Slade is a particularly showy flower of rose garnet colour, with an inner ring of white, after the manner of a Cineraria. Ethel Ashdown is similar to this, but on a much larger scale. One of the loveliest white flowers is found in Mensa. These are equally good disbudded or in natural sprays. Other good whites include Mrs. P. Sterling, Stella, Mrs. C. E. Abbott, Robert Thorpe and Gertrude. Florrie King forms beautiful flowers of pale flesh pink. Gracie Trower is lavender pink, and Gracie Lambert a deeper shade of pink. Among chestnut shades, Leo, Mrs. W. G. Patching, Oriental and Walton are particularly good. This colour is effective as a luncheon-table decoration, and is equally good under artificial light. Of dark shades, Arcturus, C. J. Ellis, Sandown Radiance, Belle of Weybridge, Roupell Beauty, Hale Crimson and Cannell's Crimson are all effective colours, and cover a season extending from October till January. Good yellows include Queenie Jessop, Kitty Bourne, Marchioness of Cholmondeley, Norah Bramwell, Sharston and Golden Mensa.

Of Double Varieties that develop good flowers when grown in natural sprays, the Caprice family are indispensable, coming into flower in succession to the outdoor kinds. Kathleen Thomson is one of the brightest, coloured chestnut crimson, with gold tips; Caprice du Printemps, bright rose pink; and Butler's Caprice, an intermediate shade between the last two. White Cap and Yellow Cap are similar except in colour, which the name indicates. Market Red follows with flowers of a velvety red; Thomas Moore, rich wine red; Mrs. W. A. Read, rich bright crimson; Mrs. Rider Bird, a fine shade of fawn; and Freda Bedford, a faultless shade of pure apricot. Foxhunter gives flowers of a rich glowing crimson shade, resembling the well-known Mrs. J. H. Silsbury. Dazzler is a deeper shade of crimson, also having petals of great substance. West Hall Crimson is stiffer, with reddish crimson flowers. Crimson Quintus gives particularly graceful and light sprays of glowing crimson shade. Mrs. C. Beckett gives white flowers that are tinted green in the early stages. Mrs. J. H. Silsbury and Godfrey's King provide beautiful decorative flowers when grown in bush form and the laterals disbudded to a single bud. For mid-December flowering Baldock's Crimson is invaluable, with flowers of a bright reddish crimson. Matthew Hodgson, rich crimson; Framfield Pink, rich rose; Christmas Rose, fine shade of pink, in flower at Christmas; Mrs. Thomson, white, flowers slightly incurved; and King of Plumes, a pretty variety with yellow flowers, the petals being much laciniated, give a charming effect of great lightness.

THOMAS SMITH.

Coombe Court Gardens.

SINGLE CHRYSANTHEMUM ROBERT THORPE, A BEAUTIFUL VARIETY WITH WHITE FLOWERS.

SCIENCE IN RELATION TO HORTICULTURE.

AUTUMN CULTIVATION OF SOIL.

What is Fertile Soil?—It is generally recognised that autumn cultivation of soils has a beneficial effect upon fertility. Let us consider the subject from the point of view of the requirements of crops. It will make the central facts clearer, perhaps, if we first of all consider the chief properties of a fertile soil. It is required of a good soil that not only will it afford a safe anchorage for the roots of plants, but that it must give, during the growing season, a constant supply of water to the transpiring foliage. Furthermore, it must be able to yield up to the feeding rootlets all those different mineral constituents, such as phosphates and salts of potash, as well as those simple compounds of nitrogen (nitrates or salts of ammonia) that are absolutely required by all garden crops. There is another condition that is sometimes unremembered by cultivators, and that is, the capacity of the soil to hold air, and yet this is one of the most essential aids to fertility. Ventilation is just as important for soils as it is for ordinary dwellings, as in the absence of pure air the active living roots of our ordinary cultivated plants would sicken and perish. Moreover, as the oxygen of the air is used up in the process of respiration, not only by the roots, but also by the vast population of germs that inhabit the soil, certain waste products of a poisonous nature are produced, and these must be removed or rendered harmless if the soil is to be kept fit and sustained at its highest point of efficiency. Lastly, a fertile soil must be able to take up the sun's heat and retain it. Warmth is of supreme importance, and especially so in spring. If at times the land is too wet, the heat is absorbed by the useless water, and the soil remains cold and uncongenial to early growth.

The Value of Digging.—Now, how does cultivation affect these conditions of soil fertility? The one great mechanical effect of digging is that it makes the soil finer in grain, and the finer the grain the greater is its fertility. To appreciate fully the importance of this fact, let me refer for a moment to the way the roots of a plant feed. It is well known that all food taken up from the soil must be absorbed in solution in water. No solid particle, however minute, can pass through the membrane that acts as a covering to the young roots and root-hairs. But it is a peculiarity of all tillage plants that their roots are slow to take up what we may term "loose" water, that is, water that is free to drain away from the soil. The water they really take in is the water that clings to the surface of each little damp particle of soil, as such water is more highly charged with food slowly dissolved out of the little solid mass to which both the film of water and root-hair are so closely attached. Ordinary digging tends to break up the soil into a finer mechanical condition, and so tends to increase its water-holding power.

Autumn Cultivation carries the crumbling process much further, especially in the case of heavy or stiff soils. By throwing up the soil in rough ridges, the frosts of winter, by freezing (and therefore expanding) the water within the pores of the soil, causes the coarse lumps of soil to swell, and because of this pushing apart of its particles, cohesion is weakened and their former closeness of texture is destroyed. The ridges quickly dry out in the March winds, and are easily pulverised when spring operations begin in the garden. This expansive force of freezing water is, by far, the most powerful agent at the gardener's disposal for the breaking down of lumpy soil, and so for converting it into a mellow and kindly workable condition, and neglect of this relatively cheap and easy method of increasing fertility is a refusal to take advantage of one of Nature's most generous offers to aid the gardener in his efforts to secure the best services of the soil in the bountiful production of crops.

Cultivation and Fertility.—Having thus briefly referred to the method by which the soil may be reduced to a fine condition, we may now consider a few of the advantages arising from such work. But first it may be well to remark that a gardener should always remember to think in terms of area of soil particles available for exploitation by roots, rather than in terms of superficial area of his garden. A well-tilled plot of a rood area may be quite as productive as a badly-tilled plot of an acre, as it all really depends upon the fineness of the soil. A little hard cube of soil will have six sides or surfaces. If it is broken in two, the six sides become twelve, and if these two are again divided, there will be twenty-four sides, over each of which a water film can cling, and so the work of dissolving out plant food substances from the soil can be extended over four times a greater area in the last-mentioned case than in the first. In fact, a cubic foot of soil such as is used for potting purposes represents in reality about an acre of absorbing area for roots. As long ago as the year 1733 the father of tillage husbandry, Jethro Tull, when advocating the thorough cultivation of soils, referred to this extension of the absorptive area as the "root-pasturage," and so in sober truth it is. Remembering that all garden soils contain practically an unexhaustible supply of plant food, if only it could be made available, and also that the only natural way in which it can be so made ready for the roots is through the dissolving action of tightly-clinging water films, it follows that fining the soil is equal in effect to manuring it. Furthermore, such thorough cultivation, by increasing not only the water-holding power of the soil, but also its air-holding capacity, encourages the growth and general activity of useful bacteria in the soil, and especially such forms as are engaged in the work of nitrification. Closely associated with this method of soil improvement is the important question of liming; but a consideration of this particular aid to fertility must be held over as the subject of the next article.

DAVID HOUSTON.

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THE NEW DOUBLE-FLOWERED VARIETY OF PRIMULA MALACOIDES.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Chrysanthemum Maud Jeffries.—A decorative Japanese variety of the purest white, and one of the most valuable of these for late flowering and conservatory decoration. A large group in small pots was sent by Colonel the Right Hon. Mark Lockwood, C.V.O., M.P., Bishop's Hall, Romford (gardener, Mr. Cradduck).

Violet Kaiser Wilhelm.—A large and spreading flower, paler in colour than La France, with sweet perfume. The variety has very long stalks, and is quite distinct. Shown by Mr. T. Johnson, Shaftesbury.

Chrysanthemum Cardinal.—A single-flowered sort of rich bright crimson colour, with big, conspicuous, golden yellow centre. Not more than 2½ feet high as shown. The rich colouring is brilliantly effective in the fullest light. From Messrs. James Veitch and Sons, Limited, Chelsea.

Begonia Rosalind. — This newest addition to the winter-flowering section is a great gain in colour, which is pure rose, the only one, we believe, of this precise shade. It is possessed of the same dwarf habit and freedom of flowering as Syros and Emita, and will make for these a good companion plant. It was raised from B. socotrana and a white-flowered, tuberous-rooted variety. From Messrs. Veitch and Sons, Limited, Chelsea.

Chrysanthemum Commodore.—A fine crimson-coloured, single-flowered variety of good size and substance, though less brilliant than Cardinal. From Mr. T. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone.

Primula malacoides fl.-pl.—Just a semi-double-flowered form of the now well known and deservedly popular Chinese species, varying nothing in colour, habit of growth or freedom of flowering. This and the type make ideal pot plants for the cool greenhouse. From Bees, Limited, Liverpool.

NEW ORCHIDS.

The choicest of novelties was seen in the lovely Cattleya named Maggie Raphael The Dell Variety, sent by Baron Schröder. The flowers were ivory white, save for the lip, which was royal purple, with gold markings in the throat. It was unanimously granted a first-class certificate. Each of the following received an award of merit: Cattleya Mrs. Temple variety Dreadnought, from Mr. C. J. Phillips, Sevenoaks; Cypripediums Goliath and Strelsa, from Mr. W. R. Lee, Heywood, Lancs; Lælio-Cattleya Auto-Doin, from Messrs. J. and A. McBean; Odontioda Latona Goodson's Variety, shown by Mr. H. S. Goodson of Putney; and Odontoglossum Saturne violaceum, sent by M. Henri Graire, Amiens.

The foregoing novelties were shown before the Royal Horticultural Society at the meeting held on December 2.

GARDENING FOR BEGINNERS.

THE AMATEUR'S GREENHOUSE IN WINTER.

THE furnishing of the greenhouse or conservatory during the winter months is a comparatively easy matter in an establishment where propagating and growing houses are at command to keep up regular supplies of flowering plants. The amateur, as a rule having no such auxiliary houses from which to draw his supplies, must to a great extent rely on plants that can be grown outdoors during the summer months, or possibly on what he can produce with the aid of a few cold frames; nevertheless, even with such limited means, a good variety of plants can be produced for the winter embellishment of the greenhouse. It is a great advantage if a hot-bed of leaves and stable manure can be used for the raising of seedlings and cuttings during early spring. In such a frame, or even in the greenhouse itself, such plants as Cinerarias, Chinese Primulas, Primula obconica, P. malacoides, Chrysanthemums and Salvias for late autumn and winter flowering can easily be raised.

The Cinerarias and Primulas can be grown in cold frames all the summer and removed indoors in the autumn. Such plants as Chrysanthemums and winter-flowering Salvias, which pass their initial stages in the greenhouse or cold frames, are stood outdoors all the summer; in fact, some of the later-flowering Chrysanthemums may stand out at the bottom of a wall until the beginning of November, especially if a piece of scrim canvas is placed over them at night. Here I would advise amateurs to grow a quantity of Chrysanthemums in 6-inch pots, rooting the cuttings about the middle of March. The Caprice du Printemps type, such as Kathleen Thompson and White and Yellow Cap, are very suitable for this purpose, as also are many of the single-flowered sorts that are now so popular. Darenth Jewel, Norma, Miss Olive Prater, Robert Thorpe and Mary Richardson are all good sorts.

Cyclamen are very useful for the greenhouse, as they produce their flowers for a period of several months. They are generally sown during August of the previous year; but the amateur would do well to sow earlier, say, about the middle of July. This would give stronger plants for the winter, a great advantage where not much heat is at command. The following spring they can be removed to a cold frame and be grown there all the summer.

Arum Lilies are favourite subjects, and have the advantage of being able to be grown outdoors all the summer and dried off and potted up again at the end of the summer, or they can be planted out and lifted during the autumn. This latter method is a distinct advantage for the amateur, as he thus starts the winter with a good ready-grown plant, which, with liberal feeding, will produce flowers for several months. The accompanying illustration depicts a pretty arrangement of Arum Lilies and the blue winter-flowering Coleus thyrsoideus, with plants of Magnolia conspicua at the back. The Coleus can be raised from seed during the spring or from cuttings put in about the beginning of June, and should be grown in a cool greenhouse during the summer. It requires careful attention as regards watering, as it is apt to lose its lower leaves if neglected in this respect.

Bulbs are very useful for winter and early spring flowering. The most popular are Freesias, Narcissi (especially the Paper-White Narcissus, which can be had in flower from November onwards), Roman Hyacinths and the large florists' varieties, and Tulips of various sorts, starting with Van Thols, other good early sorts being Vermilion Brilliant, Mon Tresor, Keizerskroon and King of the Yellows. Good early-flowering sorts of Narcissi other than the Paper-White are Henry Irving, Golden Spur, Van Sion, obvallaris, Horsfieldii, Sir Watkin and odorus rugulosus.

Success in flowering bulbs early depends to a great extent on their being well rooted, and that means they must be potted early. Freesias and early Narcissi should be potted from the middle to the end of August, and Tulips from the beginning to the middle of September. They should be stood outdoors and covered with well-weathered ashes, leaf-soil or Cocoanut fibre until they are well rooted, when they should be removed to the cold frame or cool greenhouse.

Clivias are useful plants, and are quite happy in a cool greenhouse, keeping them on the dry side during the winter. Pelargoniums of the Zonal type should be given the driest and warmest part of the house and not be over watered, for too much moisture at the root proves fatal to them during the winter. The same applies to the Cape or Scented-leaved section, which are favourites with many amateurs, as also are Cactus or succulent plants, which require very little water in the winter. During that period all watering, as far as possible, should be done in the morning.

Foliage Plants.—Quite a variety of beautiful foliage plants can be grown in the cool greenhouse, and many of them prove useful for the decoration of the dwelling-house. Chief among them are such plants as Aspidistra, Asparagus plumosus, A. Sprengeri (this is good for baskets), Cyperus alternifolius, Cordyline australis in several varieties, and C. stricta. Many cool-house as well as hardy Ferns prove very useful for the amateur's greenhouse during the winter. Helxine Solieroli is very useful for draping the edge of the stage. Azaleas of the indica type are very useful, especially such as Deutsche Perle, which can easily be had in flower by Christmas. Bouvardias, Acacias and various Heaths are useful for winter flowering, while a few plants of Boronia megastigma should be grown for the sake of their fragrant flowers. Such plants can be purchased very cheaply every season, as they are slow and difficult to grow from their initial stages. Speaking generally, the larger flowering shrubs, such as Magnolias (shown in the illustration), Prunuses, Rhododendrons and the like, cannot be accommodated in the small greenhouse, at the same time Azalea Deutsche Perle and similar varieties, together with Deutzias, Bouvardias and innumerable Heaths should find a place in the amateur's greenhouse, however small it may be.

J. C.

ARUM LILIES, COLEUS THYRSOIDEUS AND MAGNOLIA STELLATA GROUPED FOR WINTER EFFECT IN THE GREENHOUSE.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Tree Felling.—Care is necessary in taking down large trees, and it is wise to employ experienced men for such a purpose rather than to risk damaging the surrounding trees which one is endeavouring to maintain in good condition.

Care of Trees.—Old trees should be systematically gone through every two or three years, removing any dead wood that may be in them. This is especially necessary if they are situated where they may be used for sitting under during the summer months. Such trees as Weeping Birch, Beech and Ash must, naturally, be left, so that the trees develop and exhibit their pendulous habit of growth; but other trees that have a good spread of branches may with advantage be trimmed a fair distance up the main stem, thus allowing air to penetrate beneath them. By doing this the grass may be kept in fair condition by manuring; but where the branches are allowed to come too near the ground, the grass will naturally die and thus prove an eyesore.

Plants Under Glass.

Perpetual-Flowering Carnations.—These have bloomed well during the autumn, no doubt owing to the mild, open weather. Go over the plants as often as may be necessary, tying in the young growths and disbudding the bloom-buds to one to each shoot. Under certain conditions the surface of the soil is apt to get a little green at this season of the year, but an occasional scratch over with a label or something similar should keep it clean. If allowed to accumulate it robs the roots of much necessary air, and the plants are apt to become sickly.

Primulas.—These are now making a good show—at least the earlier batches—and, to keep them throwing up strongly, an occasional sprinkling of Clay's Fertilizer may be given. This adds colour to both flowers and foliage. Valsol, also, I find a good manure at this season, but it must be used very sparingly.

Begonias Gloire de Lorraine.—These appear to be lacking in colour in many places this autumn, and I cannot help thinking that if they were given a little less heat as the flowers open and a little manure as advised for the Primulas, they would not be so insipid in appearance. Plants that have been in bloom some time should have the stale blooms removed, as these only tend to make the plants look dull and of poor colour.

Bouvardias.—The older plants of Bouvardias in many instances will be going out of flower, and unless there is sufficient young growth coming along that is likely to produce bloom to warrant their remaining in the intermediate house, they should be removed to a cool one. The younger plants are usually more continuous in growth, so they should be kept going to provide material for button-holes or for small vase work, for which purposes they are very useful.

Gardenias.—These are much appreciated during the winter months, and plants that are pushing their flower-buds must be fairly liberally treated, both as regards heat and moisture, to ensure their opening kindly. Too low a temperature at night after the buds reach a certain stage often tends to make them drop. As these plants are very liable to be troubled with insect pests, they must be periodically sprayed with an insecticide to keep them down.

The Vegetable Garden.

I have already advised in these columns the necessity of pushing on with all groundwork while the weather is open, but it must be borne in mind that some soils are very much better left alone if in a very wet condition, this applying generally to very heavy soil, and I find that here in the Thames Valley, where the ground is sometimes apt to be flooded, trenching in the month of February is often more remunerative than autumn trenching. In the event of very severe weather, manure and leaves should be wheeled on to the ground, and even if the ground is hard only for an hour or two in the morning, it is advisable to do this work then rather than when it is soft, and thus avoid cutting up paths and making a mess generally. Further heaps of hot-bed material also may be prepared, as with the turn of the year it will be necessary to get many of the early vegetables on the move.

Fruits Under Glass.

Peach-Houses.—By this date all the Peach trees should be quite ready for pruning, though I have found the leaves hang much longer this season than ever before. The cleansing of the trees and the houses must be continued as time permits, as even late Peaches are apt to push their buds quite early in the year, and it is advisable to get the work finished before the trees reach this stage.

Vine Borders in newly-planted houses that need extension should be attended to as early as possible. Wherever it is convenient, the soil should be prepared under cover, so that, when it is being put on, it is not in too wet a condition. Soil in a sodden state is apt to go sour, especially if it is trodden in as firmly as is desirable. Frozen soil also should be avoided. Too large a mass of soil added to a border is also undesirable, a foot or 18 inches in width being quite sufficient at a time, as, once the border is completed, the only means of enriching it is by annual top-dressings, and by this means it can quickly become too high for practical purposes.

The Hardy Fruit Garden.

Pruning.—After the shifting and planting are completed, a start should be made with the pruning, preferably with the wall trees, and too great care cannot be exercised in this direction, as in many instances the different varieties of Apples and Pears need a very different system of pruning. It is quite advisable for the head-gardener to superintend this work himself, unless he has a man who is thoroughly well up to the work and understands the requirements of the individual varieties. An effort should always be made to keep the spurs on the wall trees as short as possible, there being nothing gained in allowing these to become long. If a fruit-bud or two can be secured near the base of the spur, the rest may be cut away with advantage; in fact, where the spurs are pretty close together, here and there one may be cut back to a wood-bud each season to keep up the supply of young spurs.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Erica carnea.—This precocious Heath, flowering from February to May, should be freely planted, not only in the Heath garden, but along the edges of mixed beds and borders of herbaceous flowers. I once saw a bed entirely filled with it in a Fifeshire garden on a lawn, and although it is over thirty years ago, the impression produced on my mind has never faded from my memory. Unlike Heaths generally, it is not at all particular as to soil; but if a little peat or flaky leaf-mould and sand can be given to it, it will be grateful for the attention. It can be planted now in open weather. The white variety, generally known as E. herbacea, is also very attractive.

Propagating-Boxes.—Those situated near centres of population can often get disused dry fish boxes ready to hand very cheaply, or it may be a type of box which can be sawn in two longitudinally, and thus form two useful boxes, with the lid nailed on one-half to form a bottom. Where boxes have to be made, three-quarter-inch planks should be used, and a suitable size for most purposes is 30 inches by 15 inches by 4 inches. Of course, light plants like Lobelias do quite well with a depth of 3 inches, while East Lothian Stocks require about double that depth. Give them ample drainage.

The Rose Garden.

Forming Pergolas.—Climbing Roses, and especially the wichuraianas, can be grown in a variety of forms, and the pergola is one of the most pleasing in every way. Although the hardwoods produce the most natural effects for pergola construction, yet, with the exception of the Oak, they are not very durable, and if I had a choice I would use Larch or Oak. The paved pathway is perhaps as good as any, laid irregularly. Above all, a sufficient root-run of good, deeply-wrought soil must be provided for the Roses, or good results need not be looked for.

Plants Under Glass.

Chrysanthemums.—All plants as they go out of bloom should be cut over, and the plants placed in as light a position as possible to ensure firm cuttings. These remarks, of course, chiefly refer to the singles and decoratives. Some of the large-flowered Japanese varieties are very shy in producing cuttings, and where sufficient stock has not been received of any of these, the surface soil should be carefully pricked over, and the plants receive a top-dressing of rich soil to encourage the production of cuttings.

Potting Lilium auratum.—After the bulbs come to hand, no time should be lost in potting them up. For single bulbs, pots 7 inches or 8 inches in diameter (according to the size of the bulb) should be used. Drain the pots thoroughly, and use a compost of turfy loam and peat, flaky leaf-mould, dry horse-manure and sharp, clean sand, all in about equal proportions. Use the whole in a rather rough state, pot loosely, and leave ample room for subsequent top-dressing. Give a slight watering and keep rather dry till growth commences. Place in a cool pit or frame.

Forcing Plants.—Batches of these should be introduced to the forcing-house from time to time, placing those newly introduced in the cooler end of the house. Tulips should be shaded from the light till the flower-stems are a good length, otherwise they will be short and dumpy. Do not allow the night temperature to rise much above 60°. Damp the house about midday with a fine spray.

Fruits Under Glass.

Early Strawberries.—Where ripe fruits are wanted by the middle of March, a small batch may now be introduced to the forcing-house. The plants should be taken to the potting-bench and all decayed foliage be removed. The drainage ought then to be seen to, and where the surface soil looks sour the plant should be turned out, the drainage rectified and the plant carefully returned to its pot. The surface soil of the whole batch must then be pricked with a stick, after which the plants ought to receive a surface-dressing with horse-manure, which should be watered in. Place the plants in the forcing-house and maintain a minimum temperature of from 45° to 50°, with a rise of from 5° to 10° during the day.

The Hardy Fruit Garden.

Supporting Bush Fruits.—On heavy, rich soils, and especially in the vicinity of trees, certain varieties of Gooseberries and Currants are apt to lurch over. Any such should have attention as soon as the bushes have been pruned and the weather permits. Prepare a sufficient number of forked branches of moderate thickness; then ease the soil at the neck of the bush with a digging fork, replace the bush in a perpendicular position, and on the side to which the bush is inclined insert the single end of the support in the ground at a slight angle, fit the fork under the most convenient lower branch, and firm up the soil round the neck again.

Pruning and Training Wall Trees.—This work should be pushed through as speedily as possible, as we generally get our severest weather during January and February.

The Vegetable Garden.

Rhubarb and Seakale.—Batches of these should be introduced to heat to be forced from time to time.

Foot-Scrapers.—There should be a plentiful supply of these in the garden. A useful home-made scraper can be produced as follows: Procure two pieces of Redwood 3 inches by 2 inches, point and tar them, drive them fully halfway into the ground at about a foot apart, make an incision about one and a-half inches deep on the top of both simultaneously with a saw, then force a light bar of iron cut to the required length into each incision, and the foot-scraper is finished.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

GARDENING ACROSTICS.

As announced in our issue for November 22, we are publishing eight gardening acrostics, to be divided into two sets of four each. Each light correctly guessed will count one, and also each "first" and each "last." Thus, supposing the whole is China (firsts), Aster (lasts), the full marks will be seven—one for China, one for Aster, and one for each of the five lights C . . . A, H . . . S, I . . . T, N . . . E and A . . . R. Hence, suppose a competitor got everything right but the light I . . . T, he would count six, and it would not matter if he attempted to solve that particular light or not.

Those entering for the acrostics must observe the rules published on page 607 of last week's issue.

DOUBLE ACROSTIC No. 2.

Firsts—Two fruits are more than brothers. I am the "Esau."

Lasts—A succulent apocarpous fruit—sometimes red and sometimes yellow—*e.g.*, Yellow Antwerp and Red Antwerp.

1. A small genus of aquatic herbaceous plants with yellow flowers, natives of the northern temperate hemisphere.
2. A once-popular genus of hard-wooded South African evergreen shrubs.
3. One of the heaviest, oldest and best flavoured of the white "berries" of show-land.
4. "Avec les curieux elle passe pour l'Impératrice des fleurs et la plus belle production de la Nature."
5. A race who stamped out the Vine, but introduced the Lemon and the Orange.
6. Although I had fed millions for generations, I was not a "world product" until after my introduction to the New World.
7. In an epigynous flower, what is the position of the ovary?
8. Pearls in an imperial crown.
9. What is obtained from Diospyros ebenum?

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than the first post on Saturday, December 20. Mark the envelope "Acrostic" in the top left-hand corner.

THE EDITOR'S TABLE.

Hardy Flowers from South-West Scotland.—Mr. R. Findlay, Logan, Stranraer, sends a box of shrubby Veronicas and a hardy Eupatorium which are now flowering well in many gardens. The flowering spikes, remarkable for their freshness, were sent on November 28 with the following note: "I have the pleasure of sending you by post a few sprays of Veronica and also of Eupatorium wienmannianum. They were all cut from the open garden to-day. The plants of Veronicas are quite a sight at present. Gauntlettii and meldrumensis are the freest to flower here in autumn. I am sorry there is no flower on Veronica macrocarpa, which is one of the very best. These late-flowering shrubs are so useful in this mild district in grey November. Eupatorium wienmannianum has done very well this year."

THE FRUIT GARDEN.

AN IDEAL ORCHARD FOR A SMALL COTTAGE HOLDING.

Manuring the Soil for Young Trees Before Planting.—A word as to the economy or otherwise of this custom. The object the planter should set out before him is the production of that sort of shoot growth on his trees which will secure to him the best and heaviest crops of fruit. The question will naturally be asked, "What sort of growth is this important growth in which we are in quest of?" I answer that it is that growth of moderate strength, neither too strong nor too weak. Such a growth as this is matured and hardened fairly early in the season, affording ample time in late summer and autumn for the plumping up and ripening of fruit-spurs and flower-buds; whereas, if the growth is overstrong, the chances are that in our short summers it will often be found difficult, and sometimes impossible, to properly ripen such wood, with the usual result of barren trees and branch growth stronger than ever, needing recourse in a few years' time to root-pruning before such trees can be brought to a fertile condition. On the other hand, too weak a growth is a loss on all sides, and leads only to failure. Therefore, as I pointed out before, the safe course to follow is to forbear to manure on good, deep loams, and to manure moderately on lighter and poorer land.

Distances Apart at which Trees Should be Planted.—The trees which pay best to grow (not speaking of bush trees) are Apples and Plums, and the best way to plant these is to put them alternately in the row, for the reason that Apple trees live longer, make larger trees and remain longer in profit than do Plum trees. The Plum trees, when signs of failure or decay set in, can be grubbed up and the extra space given to the Apple trees, of which by then they will have need. I advise that the Apple trees (standards) be planted 20 feet apart in the row; this will take fifty-four trees to the half-acre. Of Plum trees, which should be planted between the Apple trees in the rows, there will also be fifty-four trees, making in all 108 standard trees for the orchard. The distance between the rows of Apple and Plum trees should also be 20 feet. This space for many years over the greater part of the orchard may be profitably planted with bush fruit trees. Of these I will speak later.

Planting the Standard Trees.—The holes or spaces for planting being now ready to receive the trees, let us consider for a moment the points to look for in a healthy, promising young tree. It will be time well spent and space economically used, as unless your trees are of the best at the start, it is hopeless to expect success in after years. In the first place, I would say, purchase your trees of a responsible firm of fruit tree growers with a reputation to maintain. On no account have anything to do with cast-away trees sold at auction sales. Usually they would prove too dear at a gift. Go and select the trees yourself if you can and are competent to choose the best; if you are not, take a friend with you who is. Choose a standard tree with a straight, young stem with a clean, shiny and a healthy-looking bark. A tree with bark which appears dry and cracking in many places, with twists and big knots on its stem, you must fight shy of. Three year old trees from the time of grafting or budding are the best to plant. By then they will have fair-sized heads already formed, and a foundation laid for a permanent system of branches by those who are skilled in the work.

Planting the Trees.—Let the soil already in the holes be forked over a few inches deep; then prepare a bed to lay the tree in. This is done by forking out a hole in the middle slightly larger than the roots of the tree when slightly shortened will occupy. This should be about ten inches deep and slightly concave in form, the object in view being that the ends of the roots should have a tendency to grow upwards rather than downwards, surface roots being of so much more importance in fruit production than are roots pointing down towards the subsoil. See that the bottom of the hole is firmly trodden down to receive the tree, choosing a dry, fine day for planting. Do not plant in wet weather. The next thing to do is to take the tree in the left hand, and with a sharp knife shorten its roots—the stronger ones, if they are above a foot in length, to shorten to this length, and the smaller and finer roots to have their tip ends only shortened, any broken or damaged roots to be cut back below the damaged parts. There is a right and a wrong way of cutting these roots. The right way is to cut them so that the cut side will face upwards, not downwards. The young roots formed next summer from the cut part facing upwards will have a tendency to grow upwards, and those formed on the part facing downwards would have a tendency to grow downwards, with detrimental results, as pointed out above. Press the tree gently into the centre of the hole, and then carefully cover in the roots with the finest of the soil in the first place, filling all open crevices with the hand. Arrange for the larger and lumpy pieces to be placed round the sides. The new roots made in the spring and summer will soon find them out, and greatly benefit as a result. When the hole is filled, tread the soil firmly down. Its surface should be an inch lower than the level of the surrounding land. Too deep planting must be avoided, and the best way of doing so is to plant the trees the same depth as they were previously planted in the nursery. This is always plainly indicated on the bark of the tree by a dark ring at a point which was previously level with the surface soil; but, as a rule, 10 inches deep is the correct depth to plant.

Mulching the Trees.—A mulch, 3 inches deep, of well-rotted manure should be placed on the surface of the soil round each tree as far as its roots are supposed to extend. The essence of this manure will be washed to the roots by winter rains, enriching the surface soil and encouraging the formation of many indispensable surface roots. This mulch should be slightly added to in April. It will be invaluable in reducing evaporation from the soil, in keeping the soil moist, and in feeding the surface roots during summer.

Staking the Trees.—Strong stakes that will keep the trees well in position, and that will last for at least three or four years, should be used. They should be as long as the stems of the trees and be secured to the trees by three ties, one within 2 feet of the bottom, one in the middle, and one within 3 inches of the top. There is nothing better with which to tie the trees than moderately thin tarred twine. The twine should be first coiled round the stake before it is placed round the stem. This will secure the tie in position, preventing it from slipping either up or down. A thin strip of cloth an inch wide should be coiled round the stem of the tree where the ties are to protect the bark against injury from

tying. During the following summer these ties should be examined to see they are not too tight, as the stems of healthy young trees swell rapidly. The foregoing treatment applies to both Apple and Plum trees. OWEN THOMAS, V.M.H.

(To be continued.)

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS,

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

THE GREENHOUSE.

SALVIA NEMOROSA VIRGATA (*E. B.*).—The plant would be quite safe in the herbaceous border, though its greater beauty would, we think, be best revealed by planting it in a group or bed apart.

NAMES OF CHRYSANTHEMUMS (*L. A. H.*).—We are able to name several of the varieties you have sent us; those we have not named are much out of character. No. 1, White Quintus; No. 2, Bronze Soleil d'Octobre; Nos. 3 and 6, not known; No. 4, Commandant Blusset; No. 5, O. J. Quintus; No. 7, sport from La Triomphante; No. 8, La Triomphante; No. 9, Yellow Triomphante (sport from La Triomphante); No. 10, not known, very poor quality. It is very difficult to name Chrysanthemums unless they have foliage as well as bloom on the spray sent us.

PRIMULA OBCONICA FAILING (*Ecton*).—A difficult question to answer, particularly as you do not mention whether any other plants are associated with the Primulas, and if so, whether they are similarly affected. A temperature of about 60° that is, if the thermometer goes beyond it at times—seems rather too warm. We should also consider that once a fortnight is quite sufficient to feed the plants. Is there any means of sulphur fumes getting into the structure in which are the plants? We do not think the presence of iron in the soil would affect the flowers of your Primulas, for, as you say, the plants themselves are in good condition.

A SUPPOSED YELLOW CHRYSANTHEMUM SPORT (*W. F. H.*).—We have carefully looked into the colour and character of the flower which you have been good enough to send us. Although you say it is a sport from Miss Maud Jefferies, we are disposed to think it is identical with F. S. Vallis respectively in colour, foliage and form, and we would advise you to make a comparison with blooms, &c., of that variety if you grow it. You should give the plants good cultivation next season, and send the resulting blooms to the floral committee of the National Chrysanthemum Society, who will quickly determine its worth and distinctiveness.

FAIRY-RING SPOT ON CARNATIONS (*A. C.*).—This is caused on Carnations by a cold, damp atmosphere, hence the autumn of the year is more favourable to its development, and plants grown in a low situation are more readily affected than those grown in an elevated one. Britannia is, perhaps, more subject to this disease than any other variety, and all varieties such as Lady Alington which have Britannia blood in them have the same fault. Fairy-ring spot cannot flourish in a greenhouse where the atmosphere is dry and buoyant. It is most essential to remove the affected leaves, as the disease spreads so rapidly, but if the plants are dusted with a mixture of half flowers of sulphur and half air-slaked lime its development is checked, and under the right atmospheric conditions it will be exterminated. In bright weather the disease can be destroyed by syringing the plants with a mixture of sulphide of potassium and soft soap, but rain-water must be used.

KITCHEN GARDEN.

SPINACH AND SLUGS (*M. H.*).—We suppose there is no doubt your Spinach has been destroyed by slugs; millipedes are often very troublesome with that crop. The liming (using powdered quicklime) will do more than anything else to destroy the slugs, and dusting with lime, or even with ashes, will render the plants obnoxious to them. It would be well to try watering the plants affected (and the soil about them) with permanganate of potash, 1oz. to one gallon of water.

INJURY TO CELERY AND PARSNIPS (*Rosebud*).—Take care that all the Celery and Parsnip refuse is burnt, not allowed to remain on the soil. Treat the soil with kainit when digging and bury the top deeply. Plant the Celery on another site as far away from this as possible next year, and make sure the young plants are kept clean by spraying them with paraffin emulsion at intervals during their growth. We do not think there is anything very greatly amiss with the Calceolarias, and what is wrong is mostly due to slightly uncongenial surroundings. Avoid draughts and take great care over the watering. Keep a sharp look-out for aphis attack, and fumigate on its first appearance.

SPANISH CARDOON (*L. H.*).—This plant is known under the scientific name of Cynara Cardunculus, and is closely allied to the Globe Artichoke. There is no special date by which the plant ought to be ready for use, and it is usual in places where it is grown largely as a vegetable for the crop to be so arranged that the plants will mature at intervals of a few weeks from early October onwards. At the approach of frost, the plants are taken up and stored in a frost-proof shed or cellar. The earliest crop is usually from seed sown indoors in February or March, the plants being placed in the open in May. Later crops may be raised from seed sown out of doors in May. The finishing of the crop may be determined to some extent by the time of earthing up. As a rule, about three weeks are allowed between earthing up and digging. This is considered quite long enough for blanching purposes.

MISCELLANEOUS.

FUNGUS TO NAME (*Rackenford*). The fungus you send is Otidea aurantia, often called Peziza aurantia. It is not rare.

INJURY TO AN ANTIRRHINUM (*F. B.*). The Antirrhinum is apparently attacked by a fungus, but the plants arrived in such a dried-up condition that we could make out nothing satisfactorily. Will you send us a few more packed in a tin box, in order that we may make a careful examination of them? We shall then probably be able to suggest a remedy.

HORSESHOE FERN (*Mrs. J. B. L.*). We regret that we are unacquainted with a Fern known as Horseshoe Fern, but if you could send us a leaf we should have great pleasure in identifying it, and could then advise you as to the cultural details. In the meantime, as it is a native of New Zealand, there is little doubt but that it will thrive under the conditions you describe as having been found suitable for other Ferns.

MANURE FOR LAWN (*L. A.*).—Your lawns may be given a good dressing of well-decayed horse-manure with a dressing of basic slag, the latter being used at the rate of 4oz. to the square yard. A further dressing of bone-meal may be given in spring, using it at the rate of 4oz. to the square yard. Lawn sand sown over the grass in spring will probably destroy many of the weeds, but more good will be done by the manure encouraging the grass to outgrow the weeds. Some of the coarser weeds, such as the Plantains, might be uprooted now before the manure is applied.

CELERY INFESTED (*J. J.*).—The old saying that a stitch in time saves nine was never more true than in the case of the maggot of the Celery fly, for it is scarcely possible to get rid of it after it has lodged itself between the two surfaces of the leaf, as it does at this stage. The best way to make the best of a bad job is to clear away all the worst of the outside bottom leaves, afterwards dredge the plants with soot (not in large quantity), and then to earth up. To prevent an attack, dust the plants slightly over every ten days during the whole of the month of June, while the Celery fly is about. This will prevent the fly lodging in the leaves to deposit its eggs, and save your plants from injury later.

VARIOUS QUESTIONS (*F. W. H.*).—We do not recognise the pests to which you refer, but would advise you to remove the plants from the frame and thickly sprinkle the bottom with fine unslaked lime. The sides of the frame may be given a coating of whitewash made of unslaked lime, and applied while still hot. This should serve to eradicate the pests. At the same time, an occasional investigation by the light of a lantern when dark may reveal other enemies than those which you have noticed. The Daffodils should certainly be at once taken inside. If the leaves have appeared through 6 inches of soil, they are almost sure to be so weak at the base that some support will be needed.

WEEDS ON LAWN (*E. G. P. H.*).—There is nothing about the specimens of turf sent for examination to account for the grass turning yellow in the way you mention. The weed described as a coarse-looking grass is Luzula campestris, a dwarf member of the Rush family, which is common in grassland throughout the United Kingdom. The other weed is a species of Polygonum. The latter weed should be pulled up, but little good can be done by pulling up the Luzula if it is generally distributed throughout the lawn. Although the soil looks good, the grass evidently requires some extra food material, and you would be well advised to apply bone-meal at the rate of 6cwt. to the acre, with a dressing of well-decayed farmyard manure. The manures may be applied now.

NAMES OF PLANTS.—*Miss B. Cummings.*—1, Pieris floribunda; 2, Dianthus Caryophyllus (garden seedling); 3, Campanula portenschlagiana.——*A. R. H.*—1, Mme. Jules Grolez; 2, Souvenir de la Malmaison.

NAMES OF FRUIT.—*W. J.*—1, Lord Suffield; 2, King of the Pippins; 3, Golden Noble; 4, Sugar-loaf Pippin.——*J. K.*—The fruit arrived all in pulp, and impossible to name

SOCIETIES.

BIRMINGHAM AND MIDLAND DISTRICT GARDENERS' ASSOCIATION.

THE EDUCATION OF A GARDENER.

"AT times I feel that I am skating on very thin ice," was the introductory remark of Mr. J. Udale, Instructor in Horticulture to the Worcestershire Education Committee, when commencing his lecture to the members of the above society on the 1st inst. "The Gardener: His Education and Training," he said, although by no means a new subject, was, nevertheless, one which required much serious thought. Gardeners as a body did not occupy the status that they should; therefore they were not paid as they should be. In fact, they were liable to be despised, for their momentary positions were not as favourable as those of many other professions. This certainly was due to the prevalence of many types of gardeners, whose limited knowledge so curtailed their work that it forced them to accept situations at 21s. to 25s. per week. Then, too, the danger of the lady gardener also rendered their position precarious if they did not possess an adequate education; for those competitors of the fairer sex not only receive a good education, but they have a liking for this work, and also possess the charm of stilling the acidity of the mistress with a little sweetness unknown to most gardeners unless they cultivated good appearance and address. As a groundwork the young gardener should acquire good grammar, accurate arithmetic and legible writing, and, if he wished to prove himself efficient in his calling, a knowledge of chemistry, botany, geography, mensuration, drawing, entomology, and even a slight acquaintance with Latin were all necessary. An absolute essential to real success was in personality, in having acute observation, quick to denote colour, form and proportion, an easy adaptability to environments, and an administrative capacity in which loyalty, honesty, faithfulness, earnestness and truthfulness were combined. A suitable age for the young gardener to commence upon his life's work was from fifteen years upwards, and during the next succeeding years he should attain proficiency by careful continuation of his former scholastic studies by taking up advanced classes in all the important subjects which come within his sphere of requisites. He should be prepared to do all grades of work willingly, from weeding to stoking; he should be methodical, observant and clean; he should learn the propagation of plants as well as the growth of flowers; he should also include a good knowledge of landscape gardening work. Above all, he would be well advised to keep a diary of his daily work and observations from the very outset; thus, he would be able in after years to refer back to much useful information gained by his own experience. All this, said the lecturer, meant long hours of close study and hard work; but to the industrious, diligent follower of this advice there was the reward in after years. Loud applause was accorded to Mr. Udale upon his resumption of his chair, and the many remarks, together with a unanimous vote of thanks, gave evidence of the satisfaction of his audience at the lecture.

THE ANGLO-AMERICAN EXPOSITION, 1914.

HORTICULTURE, ARBORICULTURE AND FORESTRY SECTION

THE Anglo-American Exposition which will be held at Shepherd's Bush next year has for its object the celebration in a fitting manner of the hundred years of peace and progress between the English-speaking peoples since the Treaty of Ghent in 1814. As becomes an exhibition illustrative in the fullest possible sense of the activities of two great nations famous for the prominent part they have taken in the advancement of the gardening art in its varied aspects, demonstrations of both American and British horticulture are being organised on as comprehensive a scale as possible. This section of the Exposition is being organised by the Committee of Horticulture, Arboriculture and Forestry, which includes among its sixty members the foremost horticulturists, arboriculturists and forestry experts of the present time, who have also had much experience in the organisation of exhibitions of the highest class. The committee has already made considerable progress, and has formulated a scheme which there is good reason for believing will ensure a representation of horticulture, arboriculture and forestry worthy of the two great nations interested. Adequate provisions have been made for the display of rock and water gardening of the most varied character, which has of late years attained to so high a state of development, more especially in this country. A large area on the western side of the grounds will be placed at the disposal of those who are specially interested in this fascinating branch of the gardening art. Hardy herbaceous plants will not be less liberally provided for, as evidenced by the spacious Court of Progress having been allotted to them, to English formal gardens and Rhododendrons, and here the firms who devote special attention to these important classes of plants will show their taste in arrangement and skill in cultivation.

Roses, in view of their importance and popularity, will have much space devoted to them, and under the scheme the Elite Gardens will be almost wholly occupied by these fragrant, attractive flowers. Ornamental trees and shrubs, which have had so many valuable additions made to them as the result of the explorations in Western China within recent years, should also constitute a great feature of much interest and usefulness. Indeed, arrangements are being made for the representation of many other classes of plants that can be successfully grown in the open during the summer months.

THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

NOTES OF THE WEEK.

Royal Trees at Chatsworth.—The fine collection of trees at Chatsworth had additional interest added to it on Friday of last week, when the King and Queen each planted a Cedar of Lebanon in the pleasure grounds adjacent to Chatsworth House. An illustrated description of the fine gardens there appeared in our issue of the 6th inst.

Protecting Wallflowers.—In cold localities it is no unusual experience to lose the whole stock of Wallflowers during a severe spell of frost unaccompanied by snow. The risk of this will be greatly reduced if twigs of Spruce or Yew are placed among the plants at about two feet apart. This tends to break the current of cold air, which is the chief factor in working havoc among the plants.

Slugs in the Rock Garden.—At this time of the year much damage is done to plants by slugs, and as these pests lie concealed during the day beneath the foliage of some of the denser plants, the soil beneath them should be heavily dressed with dry wood-ashes, mixed with fresh soot. Two or three dressings of this during the winter will generally be sufficient to stop their ravages, and will afford suitable food for the plants.

Clothing Tree Stumps.—Where for any reason a tree has to be cut out, it can still be made an object of beauty if it is cut several feet above the ground and then covered by some suitable plant. Clematises are suitable for this work, especially C. montana and C. Vitalba (Traveller's Joy). Other plants suitable for this purpose are Polygonum baldschuanicum, the common Dog Rose, Forsythia suspensa and the common Ivy. It will, of course, be necessary to dig a good pit and fill it with rich soil in order to give the plant a fair start.

Forcing Rhubarb.—Many are under the impression that to get Rhubarb early it is essential to have a high temperature. This is quite a wrong idea, for anyone who has a cellar or similar place, where the temperature is from 55° to 60°, can grow this welcome subject successfully. If the roots are placed close together, soil worked between them and an occasional watering given, they will do well. It is desirable to dig up the roots some time before they are required for forcing, and leave them exposed to the frost. When treated in this way they will break into growth quicker and give better results than if forced as soon as dug up.

A Giant Dahlia.—When Dahlia imperialis was first introduced from Mexico in 1863, much interest was centred around it, owing to its lofty stature. It proved, however, to flower at such a late period of the year that it was useless out of doors, and a very large structure was needed for its accommodation. Such being the case, in time it almost went out of cultivation. Still, given a house sufficiently lofty, it forms a striking and uncommon feature. It reaches a height of fully a dozen feet, the lower part of the stem being clothed with huge compound leaves, the upper portion consisting of a large branching panicle of blossoms. The individual flowers are bell-shaped and somewhat drooping, while the colour is whitish, marked slightly with red at the base.

Fruit Failing to Set.—The Board of Agriculture and Fisheries are engaged in an enquiry, through their Horticulture Branch, into the failure of fruit trees to set properly through insufficient pollination, and they would be glad to be put in communication with the occupier of any orchard of five acres and upward who has reason to believe that his trees are bearing less than the normal crop over a series of years. Fruit-growers who are planting new orchards are also invited to communicate with the Board at 4, Whitehall Place, London, S.W.

Ornamental Fruiting Plants.—Now that the flowering season is practically over outside, those plants that are grown for their ornamental fruit are appreciated, and help to brighten the garden at what would be otherwise a dreary time. There are quite a number to select from, so that it is an easy matter to get variety for large or small gardens. Aucubas, several Berberises, a number of Cotoneasters and Cratægus, Gaultherias, Sea Buckthorn, Leycesteria formosa, Pernettya mucronata, Rosa rugosa and Skimmias are a few of the best.

The Popularity of the Rose.—The report and financial statement of the National Rose Society, presented to the members at the annual meeting in London last week, and a report of which appears on another page, is an eloquent testimony to the ever-increasing popularity of the Rose. In 1908 the membership of the society stood at what was then regarded as the high figure of 3,150, but now it is nearly double that number. Notwithstanding the fact that the Council have expended large sums on literature, prizes and other features, the financial statement is particularly good, and we congratulate the Council on the excellent work they have done and are still doing.

Blue-Flowering Plants in the Warm Greenhouse.—Flowers of a blue tint are always admired, and of those now in bloom Barleria cærulea is very pleasing, while a few of the earliest metallic blue flowers of Eranthemum pulchellum are also expanded. These will shortly be followed by the rich cobalt blue blossoms of Coleus thyrsoideus, which, of comparatively recent introduction, quickly became a universal favourite. The most uncommon of the three plants above mentioned is the Barleria, which, as with many other Acanthads, forms a rather erect-growing plant, with the principal shoots terminated by a cone-like head of bracts, whence the flowers protrude. They are of a beautiful sky blue colour, and though the individual flowers do not last long, a succession is kept up for some time from one head. It is a native of India, and is also known as B. strigosa.

CORRESPONDENCE.

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

Rose Mrs. Cornwallis-West.—In my notes to you on this exhibition Hybrid Tea I wound up by asking the question, "Should not this Rose be renamed Lady Randolph Churchill?" I am informed that in making this suggestion I was wrong, and that the Rose in question was named, not after the lady now known as Lady Randolph Churchill, but after Mrs. Cornwallis-West of Newlands Manor, Lymington, Hants, and Ruthin Castle, North Wales, at both of which places it does extremely well. I shall be glad if you will kindly find room for this withdrawal of my remark. —H. E. MOLYNEUX.

Primula obconica Growing Outdoors.—I enclose you a photograph of some Primula obconicas growing out of doors, which may interest you. The photograph was taken last week, and shows plants which stood last winter without protection. They were raised from seed in the spring of 1911 and flowered that winter under glass. In May I planted them out. They bloomed all through the summer of 1912, and through the winter as well, and have flowered constantly up to date. Our elevation is 720 feet above sea-level; the soil is sandy and light. They suffered rather in the dry spell we had in the summer, but did not seem to mind the cold. They are sheltered from north winds by the shrubs behind them.—C. WRAY, *Hill View, Grayshott, near Haslemere.*

PRIMULA OBCONICA GROWING AND FLOWERING IN THE OPEN AT HASLEMERE, SURREY.

Silver-Leaf Disease of Fruit Trees.—I have carefully read the remarks in two copies of THE GARDEN by Mr. Irwin Lynch, and have come to the conclusion that it is a very good scientific exposition of the theory of cause, progress, warning and conclusion; but as for a cure, I fear we must look further afield. None of the many quotations made by Mr. Lynch gives us any clue as to the remedy to be applied for efficacy. As fruit-growers we are all anxious to know how to get rid of a troublesome pest, and any practical information would be welcomed by a large body of cultivators.—ENQUIRER.

Early Peas in Pots and Boxes.—The note on early Peas, on page 607, issue December 6, is very interesting and instructive. "T. G. J." does well to recommend boxes as well as pots for the purpose, as the plants will do just as well in the former as in the latter. They are not as expensive as pots, in the first instance, but, of course, do not last as long. Good turves are cheaper still, and I have been very successful in growing Peas in them. Flat turves, 2½ inches deep, are large enough in which to raise the Peas that are to be planted out in the open border in due course; but turves 1 foot wide, the same in length, or at most 15 inches, and 7 inches deep, are the kind to use for Peas that are to be retained under glass. A shallow drill is scooped out, the Peas sown and covered with good compost.—SHAMROCK.

The Midland Daffodil Society.—It will be good news to all who are interested in Daffodils, and in the Midland Society in particular, to know that at a special general meeting held at Birmingham on December 10, the president, Mr. P. D. Williams, in the chair, it was decided that the society should go on as nearly as possible as it was in the days of the late Mr. Robert Sydenham, but that there should be no public dinner in 1914. Mr. Herbert Smith, who is now the managing director of Robert Sydenham, Limited, promised that the society should have the same help from his firm in the future as in the past. Mr. C. L. Adams was unanimously elected treasurer and Mr. Watts a member of the floral committee. The new rules of the Royal Horticultural Society relative to awards were adopted, and will be in force at the next show on April 23 and 24. It was decided to perpetuate the memory of the late Robert Sydenham, the founder, by having the words "Robert Sydenham, Founder," engraved on all the medals and note-paper. It is hoped that an annual dinner, to commence in 1915, will be decided upon at the meeting which I think is to be called for 8 on the evening of the first day's show in 1914.—JOSEPH JACOB.

Plants Flowering Out of Doors at Goodwood.—As an indication of the mild weather experienced in various parts of the country, many correspondents have sent us lists of plants flowering outdoors in December. The following, sent by Mr. F. Brock, gardener at Goodwood, Chichester, is one of the most interesting: Abutilon vexillarium, Abelia rupestris, Achillea alpina, A. argentea, A. millefolium Cerise Queen, A. tomentosa, Ajuga reptans atropurpurea, Alchemilla alpina, Alonsoas, Alyssum minima, A. saxatilis, Aloysia citriodora (Lemon-scented Verbena), Anchusa italica, Androsace carnea, Anthemis tinctoria, Antirrhinums (Snapdragons), nine florists' varieties; Arabis albida, A. a. flore pleno, Arbutus Unedo (carrying ripe fruits, green fruits and flowers), Armeria maritima rosea, Asperula suberosa, Aster Thompsonii, Aubrietia Dr. Mules, A. græca, A. Mrs. Lloyd Edwards, A. Hendersonii, A. Wallacei, Berberis Darwinii, Cassia corymbosa, Caltha palustris, Campanula muralis, C. spicata, C. Van Houttei, Ceanothus azureus, C. Ceres, C. Gloire de Plantières, C. Gloire de Versailles, C. Marie Simon, Clerodendron Bungei, Cheiranthus Cheiri, Japanese Chrysanthemums, three varieties; Chrysanthemum maximus, Chrysogonum virginianum, Chimonanthus fragrans, Choisya ternata, Collomia, Coronilla Emerus, Cosmea Sutton's Dwarf Miniature, Cytisus canadensis, Dianthus deltoides, D. fragrans, Doronicum austriacum, Erigeron Asa Gray, E. mucronatus, E. philadelphicus, E. speciosus grandiflorus, Fuchsia gracilis, F. Riccartonii, Gaillardia grandiflora, Geranium Endressii, Geum Heldreichii, G. rivale, Gypsophila repens rosea, Hamamelis virginica (Witch Hazel), Helianthemums (Sun Roses), four varieties; Heuchera sanguinea, four varieties; Hutchinsia alpina, Hydrangea hortensis, Hypericum ægypticum, H. olympicum, H. patulum, H. reptans, Iberis correæfolia, I. Pruitii, I. saxatilis, Jasminum nudiflorum, Lavandula spica (Lavender), Laurustinus, Lobelia speciosa, Lonicera fragrantissima, L. brachypoda, Linaria alpina, L. maroccana, Lithospermum prostratum, Magnolia grandiflora, Mignonette, Nepeta Mussinii (Catmint), N. M. superba, Nicotiana affinis (Sweet-scented Tobacco), Nycterina selaginoides, Œnothera macrocarpa (Evening Primrose), Œ. taraxacifolia, Odontospermum maritimum, Othonnopsis cheirifolia, Oxalis rosea, Passiflora cærulea (Passion Flower), Pentstemon Newbury Gem, P. White Newbury Gem, P. Myddelton Gem, Phlox setacea, P. procumbens, Potentilla nepalensis Miss Willmott, P. Tonguei, Rosmarinus officinalis (Rosemary), R. prostrata, Rhododendron Grand Arab; Roses—Orleans, Jessie, Mrs. Cutbush, Marquis of Salisbury, Grüss an Teplitz, Hiawatha, Crimson China, Pink China, Irish Elegance, Hermosa, Frau Karl Druschki, Souvenir de la Malmaison, Dorothy Perkins and wichuraiana alba; Rudbeckia Newmanii, Salvia Pitcheri, S. Star of Zurich, Sedum stoloniferum, tall German Scabious, Senecio pulcher, Sisyrinchium grandiflora, Solanum jasminoides, Spiræa Anthony Waterer, S. confusa, S. Thunbergii, Stock Crimson Beauty of Nice, Tiarella cordifolia (Foam Flower), Tritoma Uvaria (Red-hot Poker), Tropæolum canariense (Canary Creeper), Verbena venosa, V. tenera moorenetta, Veronica Autumn Glory, V. Andersonii, V. A. variegata, V. decussata, V. Diamant, V. salicifolius, V. Simon Delaux, V. La Favourite, V. Bidwillii, V. rupestris, Vinca major (Periwinkle) and V. minor.

PRUNING-KNIFE *v.* SECATEURS.

FOR a long time after I took an interest in pruning I had a great dislike to secateurs, looking upon them as a clumsy substitute for a good knife, and suitable only to those very amateurish performers who were unable to make proper use of a pruning-knife; but after a time my opinions became modified, partly through seeing how much secateurs were coming into general use, more especially among the workmen in our own nurseries. Experiment showed that they had advantages in certain cases, and extended use made me quite fond of them; and now I would like to record for the sake of the inexperienced the particular advantages of the two rival tools. There can be no question that to the person who has mastered the A B C of the use of the knife, the pleasure of a good clean cut is greater than the sensation of squeezing through a branch with a pair of specially-made scissors; also the cut is bound to be a cleaner one. Again, one can cut through a much thicker growth with a knife than can be done with secateurs, and leave a clean wound behind which will soon heal over.

Now for the other side. Pruning Roses and Gooseberries with a knife cannot be called a joy; there must always be a drawing of the knife across a branch to effect a clean cut, and if (as will sometimes happen) there should be a slip, the hand of the operator comes sharply away and is sure to be caught by the prickles of the Rose or spines of the Gooseberry; thick gloves may save one, and they may not. With a pair of secateurs there is no drawing action; the blades encircle the branch, and a steady press makes the cut. Here, then, is a case where the scissors easily beat the knife. Again, fancy yourself on the top of a ladder or high set of steps. You require both hands, as a rule, to make a cut with a knife, and it is not everyone who feels comfortable in such a position with nothing to hold on to but the thin twig they are cutting. Now, with secateurs one can take a firm hold with one hand of the ladder or a stout branch while cutting away freely with the other hand; moreover, if one be at all ambidexterous, one is able to prune all within reach of either hand, thus saving time in going up or down and moving the ladder or steps.

I would say, then, to the amateur, "By all means have both a good knife and a good pair of secateurs," for both are useful and add to one's pleasure in doing the work. It seems a great pity that our English manufacturers do not give us a good pair of secateurs at a reasonable price. I think I may safely say that all such tools come from either France or Germany. That good home-made secateurs are made I do not deny, but they are generally sold retail at about 5s. to 7s. 6d. a pair, while very good French or German made ones are retailed at 2s. 9d. to 3s. 6d. If our own makers *cannot* compete with these lower-priced implements, well, I suppose there is no help for it, and we must go on as we are; but it seems a great pity that some effort is not made to retain what must amount to a very large slice of trade now going abroad. J. DUNCAN PEARSON.

The Nurseries, Lowdham, Notts.

FORTHCOMING EVENT.

January 13, 1914.—Royal Horticultural Society's Exhibition and Meeting at Vincent Square, Westminster.

"THE GARDEN" IN 1914.

AS briefly indicated in our last issue, with a view to still further enhancing the value of THE GARDEN, we are now in a position to state that we have secured for the coming year the services of many of the leading authorities on gardening, who have promised to contribute articles on subjects of which they have made a life-long study. Those of our readers who remember Sir Herbert Maxwell's articles, which appeared some years ago, will, we feel sure, be glad to learn that he has once more promised to contribute an invaluable series of articles to our columns. Miss Jekyll, whose reputation as a deviser of colour-schemes in the flower garden is world-wide, has also kindly promised to write on the subjects for which she is so deservedly famous. It would, indeed, occupy far too much space to state in detail the many articles to be contributed by new and well-known writers; but the following brief summary will serve to indicate their authoritative and comprehensive character. We summarise them tersely as under:

Trees and Shrubs will be fully dealt with by Mr. W. J. Bean, Mr. Dallimore and others.

Hardy Flowers and Carnations by Mr. R. P. Brotherston, Mr. E. H. Jenkins and Mr. S. Arnott.

Water-side Gardening by Mr. James Hudson.

The Rock Garden by Mr. Jenkins, Mr. Dillistone and Mr. Arnott.

The Heath Garden by Mr. T. Wilson, head-gardener to the Earl of Strathmore.

Hardy Primulas by Dr. J. McWatt.

Daffodils and Tulips by the Rev. J. Jacob.

Roses by Mr. H. E. Molyneux, Mr. W. Easlea and Mr. P. L. Goddard. The latter writes specially on "Roses for Town Gardens."

Sweet Peas by Mr. T. Stevenson, Mr. S. M. Crow and others.

The Vegetable Garden will be in the hands of Mr. E. Beckett, V.M.H., and Mr. E. Molyneux.

The Fruit Garden.—Articles in this important section will be contributed by Mr. Owen Thomas, V.M.H., Mr. E. A. Bunyard and others.

Plant Diseases and Treatment of the Soil.—Under the heading of "Science in Relation to Horticulture," Professor Houston, F.L.S., will deal exhaustively with the Treatment of the Soil and Plant Diseases.

Diseases of Bulbs.—Mr. George Massee, F.L.S., whose article on a disease of Narcissus bulbs we reprinted from the *Kew Bulletin* in our issue for December 6, has promised to contribute an illustrated series on diseases of bulbs.

Lawns.—Mr. Peter Lees, the well-known greenkeeper at the Mid-Surrey Golf Club, will contribute articles on the treatment of lawns.

Auriculas, Chrysanthemums, Greenhouse and Other Plants will also be fully dealt with by acknowledged experts.

These are but a few of the special writers who are contributing to THE GARDEN during the coming year. Most of these articles will be accompanied by practical and artistic illustrations. With such a list of important contributors we look forward with every confidence to the New Year. It has always been the aim of THE GARDEN to place before its ever-increasing circle of readers authoritative articles by recognised experts, and we feel, from letters we daily receive from correspondents all over the world, that the success we have achieved is most cordially appreciated.

THE ROSE GARDEN.

ROSE NOTES FROM THE RIVIERA.

THE BEST STOCKS FOR WARM COUNTRIES.

HAVING much enjoyed Mr. Molyneux's Rose notes, which I see have been also read by garden enthusiasts in many countries, I wonder if he can, out of his stores of knowledge, give us some information on the important point of Rose stocks. In England the Briar stock is so generally used, and has, moreover, proved itself so much the most satisfactory medium for the propagation of Roses, that there is little more to be said on that subject. This, however, is not the case all over the world, and contributions on this point will, I think, be welcomed with much interest by those who garden in the Colonies, or even on the Riviera, where now so many good gardens are to be found. Gardening as I do on this last and well-known coast, I have found, to my regret, that the Briar stock is unsuitable to the climate and conditions generally. It suffers severely from the summer heat and drought—so much so that after the first beautiful and brief flowering in spring is passed, the Rose on that stock never does any more good, and generally dies out by the third year. The stock employed by gardeners and nurserymen here is that called "indica major," a strong-growing Rose that withstands the summer drought without suffering, and after the autumn rains starts into vigorous growth at once; hence its value, because it produces the greatly-valued November and December Roses that are the glory of this coast. I have never ascertained its origin with certainty. If Rosa indica was one parent, what was the other? This is the Rose used all along the coast as a hedge Rose, and seems ubiquitous in cultivated land. Its wreaths of pale pink, double flowers of many shades of colouring contrast charmingly with the crimson indicas, which are also used for hedges.

The R. multiflora hybrid De la Grifferaie was much used at one time, but has proved uncertain as a host, for only the strongest-growing climbers live more than a year or two when grafted on it. The native R. sempervirens has always seemed worthy of trial on dry and poor soils where it thrives; but it is not sufficiently vigorous, I am told, and cannot compete with R. indica major. There is one Rose, however, I should like to recommend for dry and warm climates, and that is R. bracteata, the Macartney Rose. Is it used, I wonder, in China, or the Cape, or the Antipodes? It has a more marked influence on the Rose budded or grafted on it than any other stock I am acquainted with, but it suckers badly and has such hooked and piercing thorns that it is called by gardeners "La Rose Cruelle"! It is extremely vigorous and, of course, evergreen in this climate, and has the valuable quality of growing continuously all through the winter, so that Roses on this stock are more continuous also in growth and flower. The curious property it possesses of adding to the depth of colour of any Rose budded on it is shown to a very marked degree in that beautiful but uncertain Rose Georges Schwartz, which attains a richness of tone that is quite unequalled. That curious but picturesque Rose General Gallieni assumes a brilliancy and beauty of colour that it never attains on its own roots or on R. indica major, but I should call it essentially the amateur's stock, as R. bracteata takes a year to establish

tself and does not transplant very readily. To those, however—and they must be many—who possess rampant bushes of this Rose, which is so beautiful in itself, I would say: "Bud freely on each strong, succulent growth, and enjoy the result."

Can anyone say why its close relative, R. sinica, is quite useless as a stock? Or can anyone say they find it reliable for that purpose? The new Rose, R. lucens, of modern introduction, seems a very promising plant in every way, and those who are happy to possess it will, I hope, tell of their experience.

A large number of Roses from the seeds Mr. Wilson collected in China are worthy of trial, but not, I imagine, for those who desire winter Roses. They seem to have a very definite resting period in winter, and their bark does not rise kindly when buds are waiting for a stock. The Banksian Rose is well known as a stock for Maréchal Niel, and the blooms at first are particularly rich in colour; but I have not heard of Roses generally doing well upon it for any length of time.

It is disappointing to find that, though Roses root so readily from cuttings when put in in August in this climate, there are not many varieties that in the end make strong plants on their own roots—probably because they do not produce enough roots to stand the summer drought and heat. To water heavily during the summer is, curiously enough, the way to kill rather than cure a Rose that is weakly; mulching the roots deeply is by far the better plan. As the natives say, they die of a *coup de soleil* if they are watered when the sun and the ground are so hot. There are difficulties of one sort or another to contend against, wherever your lot may be cast!

La Selva, Brancolor, Nice. E. H. WOODALL.

[We shall be pleased to hear from correspondents who have had experience of the difficulties mentioned by our correspondent. The subject is one of considerable importance to both amateurs and nurserymen.—ED.]

(1) HORSE CHESTNUT AND (2) SWEET CHESTNUT TWISTED IN REVERSE DIRECTIONS.

IN A HAMPSHIRE GARDEN.

SOME OF THE NEWER DECORATIVE ROSES.

(*Continued from page* 620.)

Miss Cynthia Forde (Hugh Dickson, 1909).—In its particular shade of pink, which is generally termed "rose," and covers, I suppose, as many roses as, if not more than, any other shade of colour that one could name, I am inclined to place Miss Cynthia Forde at the head of them all as the best bedding Rose of this colour, even in front of that fine old variety Caroline Testout, for so long the most popular garden Rose. It is, I think, a more beautiful Rose, of a more pleasing shade, not perhaps a better grower, but certainly more sweetly scented. I do not know its parentage, but it is nearly ten years ago since I first made its acquaintance at Belmont, and it then struck me as having a good deal of Antoine Rivoire blood in its veins. Be that as it may, it is a very excellent Rose, and should be in every garden.

Mrs. Alfred Tate (S. McGredy and Son, 1909).—Another Rose that saw the light of commerce the same year as the last named. Not quite such a good all-round Rose, perhaps, but for some purposes, such as table decoration or a buttonhole, even more useful. It has few petals, but its charm lies in its fine colour and beautiful long buds, coppery pink, with a fawn tinge, a good grower, flowers held erect on good, long stems, not subject to mildew, sweetly scented and very free-flowering.

Mrs. Amy Hammond (S. McGredy and Son, 1911).—This is undoubtedly one of the best Roses these raisers have given us. I have grown it now for three years, and each year it has improved. This year it has given me some of the best flowers I have grown, and its autumn blooms were as good as the June flowers. It belongs to the flesh-coloured Roses, and is therefore "up against" Pharisäer, Grace Molyneux, La Tosca and Viscountess Folkestone, and I am inclined to think it is a better Rose than any one of them. A fine grower, not unduly subject to mildew, and a very free-flowerer, it is destined to become very popular when better known. Named after the wife of a very enthusiastic Rose amateur and exhibitor (and one of the vice-presidents of the National Rose Society), and who herself has won many prizes for table decoration and in the other decorative classes at the National Rose Society's shows.

Mrs. Arthur Munt (Alex. Dickson and Sons, 1909).—A good creamy white garden Rose, strongly Tea-scented, that somehow is not so much grown nor so well known as its merits deserve. A compact, but not a vigorous grower, not subject to mildew; it makes a fine bed, especially in the autumn, when the flowers come as good as in June.

Mrs. Charles E. Allen (Hugh Dickson, 1911).—A charming decorative Rose, pale yellow ochre to buff, very free-flowering, a good grower, not particularly subject to mildew.

Mrs. Charles E. Pearson (S. McGredy and Son, 1913).—It may be considered early to speak or write definitely about this Rose, but I have grown it all this last season, and there is very little fault to find with it. As a pure bedding Rose of its shade of colour it is far ahead of anything else at present on the market. It is a very much improved Lyon at its best, the flowers perhaps a trifle smaller and the whole habit of the plant smaller, too. It makes a particularly neat-looking plant, each flower seeming to be produced at the same height from the ground. It is sweetly scented, and has a much better constitution than Lyon or the pernetiana Roses generally. The colour is a good orange apricot that holds well, flushed on the outside of the petals with red-yellow. If a plant could be taken up and transplanted straight to the centre-piece of a table decoration, it would want no arranging, no stems shortening, the whole being compact and complete.

Mrs. E. Powell (Bernaix, 1911).—This is a very good bedding crimson, of fair shape and size, free-flowering, that is well worth trying; but it is by no means the ideal crimson bedder we are looking for. The blue is too conspicuous in the older flowers.

Mrs. Frank Bray (Alex. Dickson and Sons, 1912).—This is a considerably better grower than Mme. Ravary, to which it otherwise has some resemblance, both in the colour of its flowers and foliage; but the former are more freely produced, with a good deal of pink mixed with the orange that enables the flowers to retain their colour better, especially in the autumn, when Mme. Ravary is often but a ghost of her real self. I do not think it is at all a case of the one replacing the other; they are sufficiently distinct for there to be plenty of room for both. Delightfully fragrant, and in flower as I write.

Mrs. Frank Workman (Hugh Dickson, 1911).—This is, I think, going to prove a good garden Rose, but it is in a very strong class. There are many good rose pinks. It is free-flowering, carries its blooms well and erect on good, long shoots. Is not predisposed to mildew, and is a good, vigorous grower.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

NEW ROSE Mme. EDOUARD HERRIOT.

Hudson & Kearns, Ltd., Printers, London, S.E.

TREES AND SHRUBS.

TWISTED TREES.

IT sometimes happens with certain trees that the trunks show a marked tendency to twist in a spiral manner. Everyone who is at all familiar with our British trees has probably observed this tendency in the common Hawthorn, a tree often met with in bleak and wind-swept positions, when both trunk and branches bend over with the direction

3.—A TWISTED OAK TREE.

of the prevailing wind. Such trees, if of any age, invariably have rough and gnarled bark, sometimes twisted, as in the case of the Hawthorn depicted in the last of the series of illustrations. The advantage of such a twist is obvious, for just as a rope is strengthened by twisting, so is the tree better adapted for withstanding the strain placed upon it in a wind-swept position.

In the case of the Horse Chestnut (Fig. 1), the twisting is not at all common, and it is really difficult to understand why certain trees possess this peculiarity while others growing under precisely similar conditions are normal. Another point of more than passing interest is the direction of the spiral. In all of the cases illustrated the spiral is from left to right, except in the case of the Sweet Chestnut (Fig. 2), in which the reverse spiral, *i.e.*, right to lett, is well defined. This remarkable tree stands in the Arboretum at Kew. The Sweet Chestnut is rather addicted to the production of spirals, which may be in either direction. In the case of the Oak, however, the tendency is by no means common. Fig. 3 represents a derelict Oak in Windsor Forest which has been killed by lightning. Here the twist is observed not only in the main stem, but also running through the branches. In very hollow trees, open on one side, spiral growth is sometimes seen, owing to new wood continually being deposited on its own inner surface. A remarkable example of this curious growth is exhibited in No. 4 Museum at Kew. It is a section of Elm trunk, so hollow as to be merely a shell a few inches thick. The tree, eventually formed, by its continual growth on the inner side, two remarkable spirals suggesting a pair of scrolls. The Judas Tree (Cercis Siliquastrum) is often twisted. An old tree in the Botanic Garden at Cambridge is reputed to be very slowly revolving, so that the branches now leaning to the west were many years ago said to be facing north.

The cause of trees growing in spirals does not appear to be well understood, but one factor which may throw light upon the question is the formation of new cells from the cambium. These cells slide either to the right or to the lett as the growth of the tree proceeds. The cells, which are elongated when seen in tangential section, are known as sliding cells, and should they slide equally in both directions, no twisting of the trunk would result. This twisting is worthy ot attention at this season, when deciduous trees are in their winter's sleep. C. Q.

COLOURED PLATE.

PLATE 1483.

ROSE MME. EDOUARD HERRIOT.

I SHALL never forget the glorious display of this fine novelty that I was privileged to see

4.—SPIRALS ON BEECH TREE.

at the end of last May when visiting my friend M. Pernet-Ducher at his home, Venissieux, near Lyons. It was a beautiful sunny morning when I was conducted to that part of the famous Rose gardens where Mme. Edouard Herriot was growing, and here row upon row of the healthy-looking plants were in full bloom at this early time of the year. These particular plants were cut-backs, for the thousands of maiden plants in another part were only just showing bud. No one who could have seen the Rose here in its home could have any doubt as to its ultimate success. What a colour! And who can describe it? I guess it will need an artist to correctly name its various tints, but the coloured plate will give some idea of its beauty. As a Rose for bedding and massing, Mme. Edouard Herriot will be grown by the million in the near future. I was not surprised to learn that M. Pernet-Ducher was obliged to decline many large orders, and, indeed, most of the demands had to be considerably curtailed, for this noted raiser caters for the whole world. The pernetiana Roses have most assuredly come to stay. There are some rosarians who fear that the tribe lacks constitution. I grant that Rayon d'Or and Lyon have a very bad tendency to die back, but this tendency will be gradually eliminated. Certainly with Mme. Edouard Herriot there is no such tendency as far as I have seen, the plants in my possession looking the picture of healthy vigour. We all know how splendidly this Rose was exhibited last year at Vincent Square and Chelsea by that prince of growers, Mr. George Beckwith, and it must prove to be one of the greatest novelties yet raised from a colour point of view. Like most popular novelties, I expect it will be over-propagated, as was the case with Lyon Rose and Rayon d'Or; but no doubt many rosarians have seen, as I have, these two superb Roses sending up wood that could almost be described as timber after they had recovered from this over-propagation.

I have blooming now (December 6) a most charming variety of the group named Mme. Ruan. There is a resemblance to Viscountess Folkestone, and yet sufficient of the Briar suffusion to stamp it as one of the distinctive pernetianas. The flower has a warm apricot hue pervading the pink, altogether a delightful blending.

I saw at M. Pernet-Ducher's quite a number of seedlings of Mme. Edouard Herriot, of which we shall doubtless hear more very soon. There seems to be no end to the variations possible in the cross-fertilisation of the Rose, and no sooner do we have some startling novelty introduced than there are others to eclipse it. In my rambles through the seedling quarters of the three great Irish raisers last July, I noticed quite a number bearing undoubted relationship to the pernetiana group, so that this tribe will soon become one of the most important, perhaps even eclipsing the Hybrid Teas. All readers who wish to add

5. A WEATHER-BEATEN HAWTHORN.

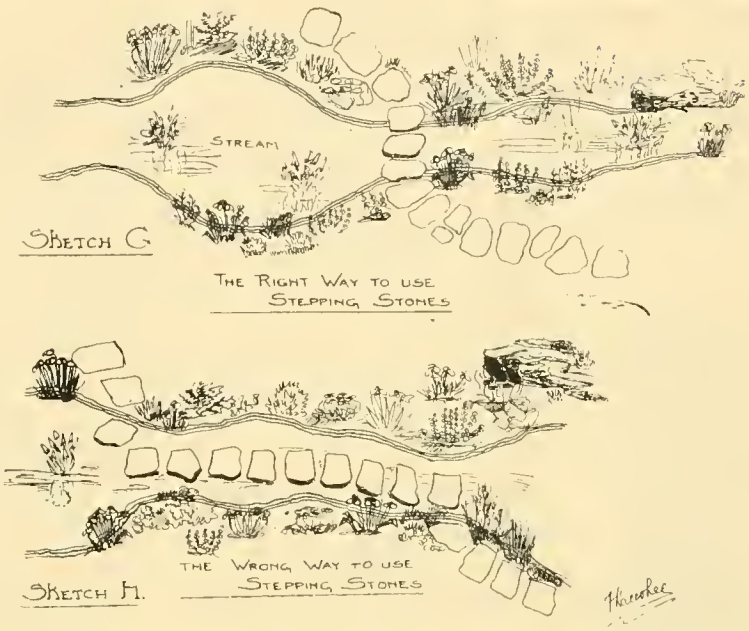
distinctive novelties to their collections must certainly have Mme. Edouard Herriot, and if they do not yet possess Arthur R. Goodwin, Louise Catherine Breslau, Cissie Easlea and Willowmere, I would advise them to get them during the present planting season. DANECROFT.

ROCK & WATER GARDENS.

THE DESIGNING OF ROCK GARDENS.

(*Continued from page 621.*)

Arrangement of Stone.—This depends to such a great extent upon the nature of the stone used and the purpose for which the work is being carried out that it is only possible to give a few general instructions. The most important point to remember is that every piece of stone should be placed with due regard to its relation with every other piece in every other respect, competent gardeners, splendid cultivators, and some even with more than ordinary powers of design, totally fail in this one respect. Every stone placed should have a reason for it being in its position. None should be used that is unnecessary, and one is far more likely to obtain satisfactory results from too little rather than too much stone. Where the cultivation of alpines is the main consideration, every stone should be placed with a slight backward slope, so that the ledge formed by it will catch the water and direct it towards the roots of the plants on that ledge. There should be sufficient soil between the stones for root action of the particular plants to be grown in that position.



PLANS G AND H, SHOWING THE RIGHT AND WRONG WAY TO USE STEPPING-STONES.

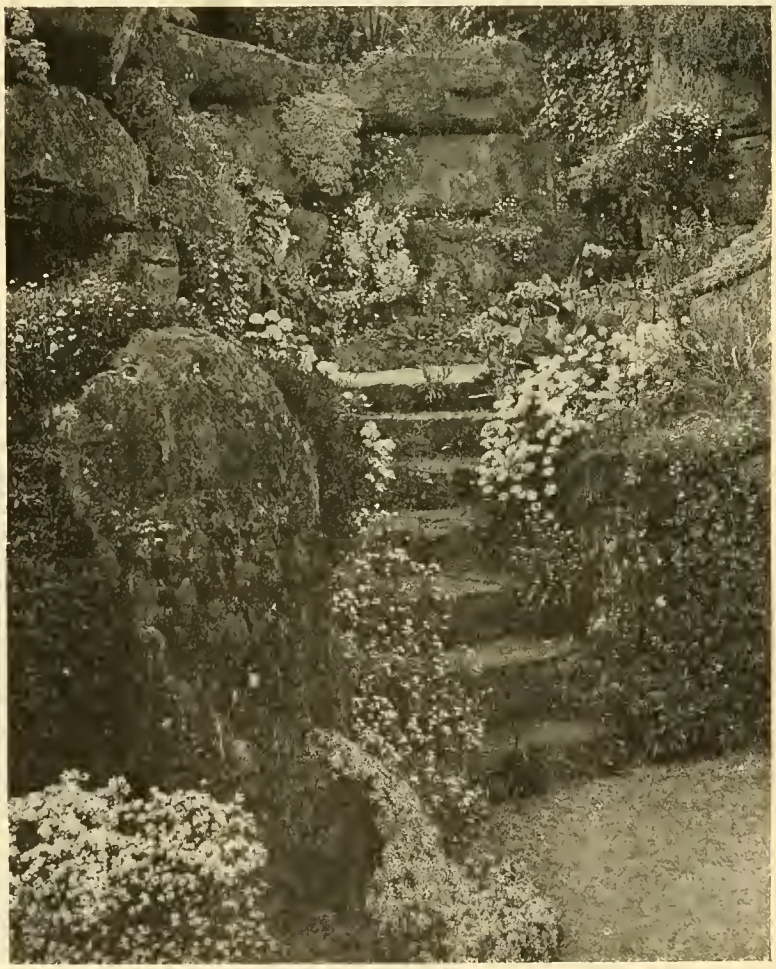
Steps and Paths.—A very important feature in the arrangement of the rock garden is the creation of steps and paths. To maintain a perfectly natural appearance, these should be of the same stone as is used in the construction of the rock garden. They should be so arranged that they give the impression of being a continuation of the stratification of the adjoining stone. This is really important, many an otherwise good arrangement being spoiled by the introduction of paths formed of another stone altogether, and used in such a way that while they would make excellent paths through other portions of the garden, they are too obviously artificial for the rock garden. With regard to stepping-stones, these should be irregular in outline, and, in fact, providing the upper surface is sufficiently smooth for pleasant tread, the more irregular they are the better.

Stepping-stones are useful, not only for crossing water, but in the low, marshy places in the rock garden, and can even be used with good effect to form the main paths (see illustrations). Stones used for this purpose should be selected, not made, but if any rough dressing has to be done, the marks of the tools should always be effaced. Above all things avoid arranging stepping-stones to go the *length* of any piece of water. Never make a crossing for the sake of introducing stepping-stones. The accompanying simple plans illustrate the right (G) and wrong (H) positions for their use, which should almost invariably be at the narrowest part of the stream.

GEORGE DILLISTONE

Colchester.

(*To be concluded.*)



STONE STEPS WELL PLACED IN THE ROCK GARDEN.

THE FLOWER GARDEN.

SWEET PEA NOTES.

VARIETIES FOR EXHIBITION.

Once to every Man and Nation comes the moment to decide,
In the strife of Faith and Falsehood,
For the good or evil side.

THE Sweet Pea grower has to make his choice of the varieties he intends growing, and when he views the lengthy lists contained in every catalogue he may be pardoned if he quails before the task, for the difficulty is not so much what to select as what to neglect. The National Sweet Pea Society has listed many "too-much-alike varieties," and all exhibitors should avail themselves of this and other exclusive expert knowledge by becoming, for the small annual sum of 5s., members of this society. Some readers may think it superfluous to state that Sweet Peas are known as the Spencer or waved varieties, and the grandiflora or non-waved varieties, yet many are still ignorant of this fact.

In making a selection for exhibition purposes, the grower will be guided largely by the schedules of the shows where he intends competing. Personality also is a potent factor in choosing varieties, for without a true love of the flower no real success is possible; thus, each exhibitor will select the varieties and colours he likes most.

A close study of the varieties since each was introduced enables the following list, arranged according to colour, to be recommended as thoroughly trustworthy; and where two or more are mentioned, the names are given, in the opinion of the writer, in order of merit. Of the novelties offered this present autumn, these twelve are good:

King White (A. Dickson and Sons).—Without doubt the largest white Sweet Pea that has yet appeared; a vigorous grower, producing fine, beautifully-waved blooms, mostly fours, on good stems.

Blue King (Bide).—A Lord Nelson in Spencer form, good grower, carrying nicely-placed flowers (abundance of fours), which stand rain and sunshine well.

New Marquis (Dobbie and Co.).—An improved stock of this much-prized mauve variety, and now the best thing in its class.

Illuminator (Burpee and Dobbie and Co.).—A richer and deeper coloured Edith Taylor, excelling it also in growth and size of flowers. One of the prettiest varieties yet raised.

Sincerity (B. W. Deal).—A deep cerise, brighter than Kathleen, a novelty of the previous year, and it is also an advance in size of flowers, of which it carries plenty of fours. An altogether first-class Sweet Pea.

Blue Picotee (Dobbie and Co.).—A better variety than Mrs. Townsend, having more substance in the flower. It makes a fine bunch for exhibition purposes.

Phyllis (W. J. Unwin).—An improved Mrs. W. J. Unwin, which, in all probability, it will oust from popular favour.

Edith King and Mabel Baccus (W. J. Unwin) will delight all lovers of the Helen Pierce family. Both are vigorous and free, and will please either for the garden or exhibition.

Mrs. M'Illwrick (Malcolm and Dobbie and Co.).—A bicolor with rosy mauve standard and wings of a deeper tone. A vigorous grower, producing plenty of fours. It is delightful when seen growing under glass.

Wedgewood (A. Dickson and Sons).—A medium blue, superior in size and colour to Flora Norton Spencer.

Anglian Royalty (E. W. King) attracted attention at the Chelsea Show, and lovers of this colour should procure it. It requires to be grown in partial shade, but I did not see this variety growing, hence cannot say further of it.

Quaker Maid (Malcolm and Dobbie and Co.) was first seen by me under the name of Grey Lavender. It is a large Sweet Pea of good substance, a fine free grower, with flowers having a dove grey standard and blue lavender wings.

Turning to varieties of previous years, in whites we have Etta Dyke, White Queen and Nora Unwin; rose and carmine—Rosabelle and John Ingman; blush—Agricola and Mrs. Hardcastle Sykes; pink (pale)—Elfrida Pearson; pink (deep)—Hercules, Countess Spencer and Pink Pearl; cream—Dobbie's Cream, Deal's Giant Cream (waved) and Clara Curtis; bicolor—Mrs. Cuthbertson, Mark's Tey, Afterglow and Wenvoe Castle; blue (light)—W. P. Wright and Flora Norton Spencer; blue (dark)—Lord Nelson Spencer (Sydenham) and Mrs. G. Charles; crimson—Dobbie's Sunproof Crimson and Maud Holmes; scarlet—Dobbie's Scarlet, Red Star and Scarlet Emperor; cream pink (pale)—Gladys Burt, Mrs. H. Dickson and Constance Oliver; cream pink (deep)—Margaret Atlee, Mrs. R. Halfam and Doris Usher; cream flake—May Campbell; blue flake—Loyalty; orange flake—Mrs. W. J. Unwin; lavender—Lavender George Herbert (Dobbie), R. F. Felton, Moonstone and Asta Ohn Spencer; lilac and pale mauve—Improved Bertrand Deal and Bertha Massey; dark mauve—Mrs. J. C. House and Tennant Spencer; cerise (pale)—Edith Taylor; cerise (deep)—Kathleen (Deal); magenta—Menie Christie; ivory—Lady Knox; maroon and chocolate—King Manoel, Nubian and Red Chief Improved (Bolton); maroon flake—Senator Spencer; picotee—Elsie Herbert, Helen Williams and Mrs. C. W. Breadmore. Orange shades requiring shading: Orange pink—Edrom Beauty; orange scarlet—Edna Unwin and Thomas Stevenson (Dobbie); salmon—Barbara or Melba; salmon pink—Lady Miller; fancies—Charles Foster, Eric Harvey and Prince George.

Selections of varieties for garden decoration, together with suggestions for colour effect, will be dealt with in a future article. S. M. CROW.

STEPPING-STONES LAID AS ADVISED IN PLAN G ON OPPOSITE PAGE.

RELIABLE LILIES FOR GARDEN CULTIVATION.

THERE are several Oriental Lilies which, while admirably adapted for the conservatory, are by no means equally suitable, by reason of their susceptibility to atmospheric influences, for garden cultivation, such, for example, as nepalense, Lowii, wallichianum and sulphureum, of which, however, the distinctive variety last mentioned sometimes *does* succeed, as with Mr. Grove at Henley-on-Thames, during an exceptional season of brilliant sunlight, such as we had the rare

privilege of experiencing this year. But this, after all, according to my own experience, is only the exception that emphasises the prevailing rule.

One of the most reliable and enduring of all Oriental Lilies is Lilium monadelphum szovitzianum, a native of the Mount Caucasus regions and of Northern Persia. I have one noble specimen of this Lily that has flowered in the same sheltered and shady situation for fifteen years, and rarely reaches a height of less than 8 feet, thereby eclipsing its attainments (for so Sir Herbert Maxwell has assured me) at beautiful Monreith, the woods environing which residence I can see almost daily from this manse across the spacious Bay of Luce. L. m. szovitzianum is one of the loveliest of all Lilies; extremely fascinating is the exquisite citron colour of its pendulous flowers, which have invariably a memorably artistic effect. It is really a much more charming Lily than even the great Himalayan giganteum, which has this disadvantage when compared with m. szovitzianum: that it takes an offset at least four or five years to build up its immense flowering bulb. The latter is sometimes—as at Monreith—perpetuated by seeds, but this is an extremely protracted process, making great demands upon the patience of the most earnest and persevering cultivator.

It is gratifying to know that such handsome and comparatively recent introductions as L. regale and L. Sargentiæ are as hardy and vigorous as the familiar L. Brownii (to which they seem to be somewhat closely affiliated) when grown in the open garden, and they will assuredly be acquisitions if they are even more enduring. But I much regret to say that varieties of this special type have never lasted for more than two years in my garden. One short season has generally proved sufficient for the lifetime, however charming, of Krameri and rubellum, whose diminutive bulbs, in our humid Scottish climate, too prematurely disappear, leaving no trace of the bulbous origin of their existence behind.

Speaking from long and patient experience, I would say that the most reliable of all Oriental and Occidental Lilies for garden culture are auratum, especially platyphyllum, and the attractive forms Wittei (almost pure white) and virginale; szovitzianum and giganteum; candidum, one of the most graceful and richly fragrant of all Lilies, which should be even more widely cultivated (especially for contrast among beds of pink and crimson Roses, as in Logan Gardens in this county) than it is; the equally odorous washingtonianum and the luminous scarlet Martagon; tigrinum splendens; the various charmingly contrasted varieties of elegans or thunbergianum; longiflorum varieties Wilsonii and giganteum; Henryii, pardalinum, Burbankii and speciosum magnificum.

Wigtonshire, N.B. DAVID R. WILLIAMSON.

THE GREENHOUSE.

THE WINTER-FLOWERING BEGONIAS.

THESE Begonias are rapidly coming into favour now that their cultural requirements are being more fully understood. They are the result of intercrossing the pretty Begonia socotrana, a pink-flowered species with fibrous roots, with varieties of the tuberous-rooted section, which produce such a gorgeous display during the summer months. Two firms stand out conspicuously in raising these gems, viz., Messrs. J. Veitch and Sons, Limited, Chelsea, and Messrs. Clibran of Altrincham. The former were (as in many other instances) the pioneers, and the first plant they introduced was John Heal, named after that veteran hybridist who has served his firm for over fifty years. This was followed by other novelties, such as Elatior, a semi-double flower of rich rosy carmine shade; Ensign, also semi-double, light carmine toned with scarlet; Ideala, bright rosy carmine; Mrs. Heal, brilliant rose carmine tinged with scarlet; The Gem, a fine rosy red; Winter Cheer, semi-double, rose carmine; and Winter Perfection, semi-double, bright rose pink. Those of recent introduction embrace Optima, a lovely shade of orange salmon; Fascinator, bright salmon; and Emita, a fine orange scarlet.

Of Messrs. Clibran's new kinds I would call attention to Scarlet Beauty; Eclipse, salmon scarlet; Clibran's Crimson; Lucy Clibran, orange suffused with rose; Altrincham Pink, apricot orange suffused with pink; Miss Clibran, rich blush pink; Clibran's Pink; and Progress, salmon and orange, all of which have double or semi-double flowers.

WINTER-FLOWERING BEGONIA OPTIMA. THIS HAS BEAUTIFUL ORANGE SALMON COLOURED FLOWERS.

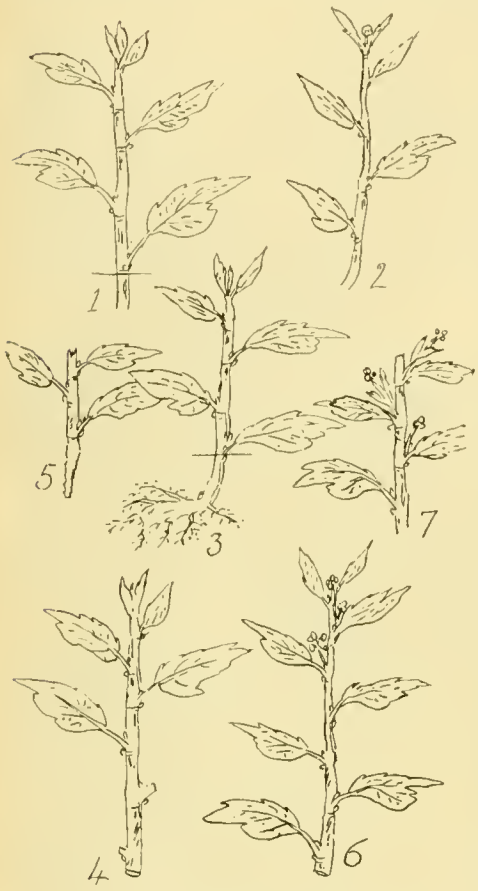
Cultural Hints.—New varieties are obtained from seed, but the amateur and general gardener will increase his stock by the usual method. This is by cuttings, which may be taken any time from April till August. They are made from the young shoots which form in the axils of the leaves after the plants have completed their season of rest. Make them in the usual way by cutting off the lower leaves and severing the stem immediately below a joint. Place them singly in 2½-inch pots, using a sandy compost, and then arrange them in a hand-light or small propagating-frame where the temperature does not fall below 70° Fahr. Directly they have filled their pots with roots, put them into others two sizes larger, and so on till they reach the flowering size. Cuttings that are rooted in the early months will require pots about six inches in diameter, and a later batch will need 4½-inch or 5-inch receptacles. A good rooting medium consists of the best fibrous loam, two-thirds; leaf-mould, one-third; and a little silver sand. The loam should be rather on the light side, and for full-sized plants a sprinkling of well-decayed manure may be incorporated with the mixture. The pots should have one-fourth of their depth filled with drainage, and when repotting do not make the compost too hard.

At this period of the year many of these Begonias will be in flower, and, when these are over, a partial rest should be given until the end of March in a temperature of 55° to 60° Fahr. At this time they need very careful watering; in fact, this may be said to be the most critical part of their existence. But if they are kept moderately dry, no harm will accrue. We should aim at giving just sufficient to maintain the stems and foliage in a healthy condition. After growth commences, the plants will need repotting in the mixture named above, and they ought to be placed in a temperature of 60° or 65° Fahr. As root action becomes vigorous, more water may be given, and at no time must they be allowed to suffer from drought. A somewhat moist atmosphere is essential throughout the growing period, but no overhead spraying is advised, and any condensation of moisture on the leaves is detrimental to their welfare. W. B.

GARDENING FOR BEGINNERS.

HOW TO PROPAGATE CHRYSANTHEMUMS.

THE Chrysanthemum is not a difficult plant to propagate. Indeed, it is one of the easiest, and the majority of the varieties produce cuttings very freely. Although it is a simple matter to increase the stock, or to renew it by means of cuttings, the best results are only obtained when these are carefully



A.—CHRYSANTHEMUM SHOOTS SUITABLE AND UNSUITABLE FOR CUTTINGS, AND HOW TO PREPARE THE GOOD ONES FOR PLANTING.

treated, rooted under the best conditions, and cared for afterwards as they require more rooting space and head-room. Amateur cultivators may succeed in striking 90 per cent. of all cuttings inserted if they possess an ordinary garden frame, and 95 per cent. if they can make use of a greenhouse. In the unheated frame there is much moisture to contend with during the months of December, January and February. From a greenhouse only slightly heated, all excessive moisture can be expelled. Preference should, therefore, be given to propagation on a greenhouse stage, if both frame and stage are available.

Good and Bad Cuttings.—There are three qualities in cuttings to be found every year, namely: Suckers growing from the soil in the old pots without buds prematurely formed; suckers possessing flower-buds; and young shoots growing from the stems of the old plants. The first named must always be used, if obtainable; the second and third kinds where new varieties and others that are very shy in producing cuttings are concerned. It is, however, much the wisest plan to purchase cuttings, if this can be done. Even in the case of strong cuttings, some from a distance would thrive better than old stock that has been propagated from for a number of years.

It is advisable to propagate some cuttings later—in January and February—and when this course is decided upon, select the strong suckers, remove all weakly ones, and so strengthen the former for use in due time. Now, towards the end of December the cultivator must make a selection of the varieties he intends to propagate. They will be, first, those that are late flowering, followed by the medium early, the earliest of all being inserted at a later date. Late-flowering sorts should be allowed a long period of growth, as they are naturally late in making the first break, and also in producing the crown bud that is usually "taken."

Soil for Cuttings. — Use the very best procurable, as it must remain round the roots throughout the growing season. There can be no better compost than one made of fibrous loam and leaf-soil in equal proportions for the strong-growing varieties and rather more leaf-soil than loam for the weak-growing ones. Plenty of coarse sand must be added in every case.

The Sketches Explained.—Fig. A, No. 1, shows a good, free-growing cutting, the stem of which must be severed just below a joint with a sharp knife. No. 2 represents a bad cutting with a flower-bud in the point of growth. No. 3 shows a rooted sucker; the rooted portion must not be inserted; cut off the stem as denoted by the dark line. No. 4 depicts a good cutting prepared for insertion. If a cutting is severed between the joints, it will decay, as shown at No. 5. No. 6 represents a cutting bearing buds; if topped, this kind usually produces more buds, as shown at No. 7.

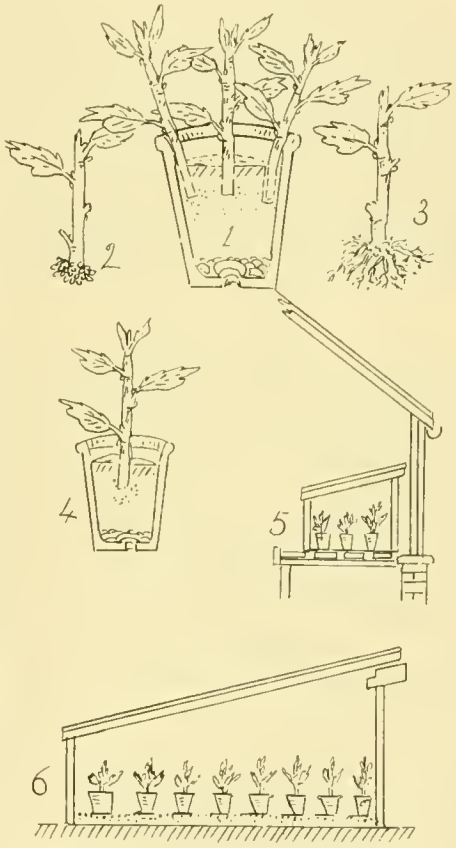
In Fig. B, No. 1 shows how to insert cuttings round the side of a pot; No. 2, the callus forming; No. 3, the new roots; No. 4, a cutting inserted singly in a pot; No. 5, cuttings in a small frame on a greenhouse stage; and No. 6, cuttings in pots in a cold frame. Water with care at all times, and ventilate a little every day. G. G.

HINTS ON MANURING SOILS.

WHEN winter comes, the thoughts of the cultivator turn to the question of manuring, especially in the case of the application of manure to the vegetable ground. Experienced cultivators use their judgment and only apply manure to heavy soils now, reserving manures for light land until the spring. When organic manures are kept for several months, during the winter season they should be protected from all rains, as, if exposed in large or small heaps, the greater portion of the plant food would be washed away, and the better course to take would be to bury it, even in the light ground. Heavy, retentive soils may be manured now, and, indeed, in dry weather at any time during the winter; but light soils must not be manured before the months of February and March. Then the crops following will get the full benefit from the enriched soil. It is only necessary to keep the manure in an open shed, or to cover it sufficiently to prevent water passing through. SHAMROCK.

HINTS ON STORING DAHLIAS.

AFTER lifting, Dahlia tubers should be well dried before storing. For those possessing ample suitable accommodation, the actual storing presents but little difficulty; but there are many not so fortunately situated, and who hardly know how to preserve the tubers through the winter. This latter class of gardeners should give the storing in clamps a trial, for when this is rightly done the tubers winter well and later grow satisfactorily. Choose a dry site for the clamp, raise the tubers from direct contact with the ground surface by, first, a few thorns or a splined platform—in either case well covered with dry Wheaten straw—and, having arranged the tubers pyramid fashion, cover well with enough dry straw



B.—HOW TO PLANT THE CUTTINGS AND THEIR SUBSEQUENT TREATMENT IN GREENHOUSE OR FRAME.

to preserve them from frost. Now cover the whole well with earth, as when clamping Potatoes, leaving a wisp of straw projecting at the centre to ensure ventilation, and then thatch the clamp securely. The result will rarely fail to please, and will solve the storing difficulty. J. T. B.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Rhododendrons.—Established beds of Rhododendrons are very much benefited by a top-dressing of old spent hot-bed manure, or even leaf-mould. These being surface-rooting plants, it is not wise to fork over the beds. Such a top-dressing will keep the plants in a good vigorous condition, with the foliage green and more or less erect, according to the variety. Starved plants, even in the winter, are yellow in appearance, the foliage looking as though it is flagging.

Hardy Azaleas are also greatly benefited by a mulch of this description. Then, again, the colour and size of the bloom are much enhanced, while the foliage is larger and brighter.

Flowering Shrubs.—The extreme mildness of the winter has much to answer for. Here in these gardens we have had several varieties of the shrubby Spiræa in bloom during November and December, while Berberis Darwinii, in several instances, has given a full crop of bloom. B. stenophylla is not so precocious, only isolated shoots having opened their blooms; but so forward are the buds that one is greatly concerned as to the amount of damage that a hard frost will do, and certainly it does not augur well for a good show of blossom in the spring.

The Flower Garden.

Bedding Geraniums.—Where these are rooted in boxes or several in a pot, it may be advisable to get them potted off singly as soon as possible, as they have made a good deal of growth this autumn and, being close together, there is danger of their becoming unduly drawn. It may be argued that it is early for this operation, and so it is; but it is better to do it now, when, perhaps, there is more time, than to leave it till February, when work is generally more pressing.

Pelargonium Maxime Kovalevsky.—This somewhat new orange scarlet variety should prove effective for bedding if it is floriferous enough. I have seen two or three beds of this variety, and in each instance it was perfectly satisfactory. Not having used it for bedding purposes, I cannot definitely state that it is a good continuous bloomer, but hope to prove it during 1914.

Plants Under Glass.

Liliums in variety that are being forwarded for Christmas should have the stamens removed as they open — this to keep the flowers clean; and wherever possible the plants should be removed as the flowers open to a cooler house to keep them in good condition as long as possible.

Lachenalias.—Although these plants do not like forcing in any way, those that are in frames may with advantage be removed to a light, airy house. If left in frames too long, the foliage gets big and soft. The drier atmospheric conditions prevailing in a house hardens the foliage, and the plants when in bloom have a much better appearance.

Freesias.—For the same reason Freesias are much better in a cool house. Plants that are well rooted may be given liquid animal manure whenever they are dry, this being preferable to artificial manure, and it will tend to increase the size of the blooms.

Humea elegans.—This subject requires very careful cultivation, especially during the winter months. The plants must at no time be allowed to get dry, as this is fatal to the foliage. Potting on also must be done before the roots become too densely matted together in the pots, and if in 4½-inch or 6-inch pots, the next shift should be into their flowering pots—8½-inch being a very suitable size, though if the plants are wanted for use in small groups, a few should be left in fairly small pots, or they will grow too large.

The Kitchen Garden.

Forcing Frames that are not in use should, if possible, be overhauled and painted, but do not make the mistake of using any of the tar preparations as a preventive of rot. The fumes that arise from them will prove a nuisance for months, Lettuce, Beans, Radishes, &c., all being burnt by them every time the sun comes out at all powerful, even though there may be plenty of air on the frames at the time.

During Wet Weather lights may be scrubbed, large labels made and painted, and stakes sharpened and arranged in different lengths for the various purposes for which they may be required.

The Root Shed also should be looked over as the opportunity offers, removing any subjects that show the slightest evidence of decay. Late Potatoes that may have been put away in bulk should certainly be gone over, selecting any that may be required for seed, while the really small ones should be given to the pigs or poultry after being boiled.

Rhubarb.— Further supplies should be put in the forcing-house, as with the turn of the year Apples and stewing Pears will be scarcer, and Rhubarb is always welcomed in the kitchen as a change.

Lettuce and Cauliflower.—Seeds may now be sown for early crops in frames. Of the former, Golden Ball, Tom Thumb and All the Year Round are the best varieties in the order named; while for Cauliflowers I have found Carter's Forerunner as good as any.

Tomatoes.—A sowing of Tomatoes should also be made to succeed those sown or propagated from cuttings in the autumn. Sow thinly and keep very near the glass, or the seedlings will soon become attenuated at this season. The smaller varieties of Tomatoes are best for early work, the variety Sunrise being excellent.

The Hardy Fruit Garden.

Pruning.—This should be continued as the weather permits. Having made an early start, it gives one a chance to select or choose the more favourable days for pushing on with the work. Pyramid and bush trained Apples and Pears cannot well be kept too open, and wherever possible the branches should be about two feet apart, this allowing a maximum of light and air between them. In very many instances, even in otherwise well-kept gardens, enough attention is not paid to this matter, and were the pruning-saw used rather more, better results would often be obtained in some of the older, and consequently larger trees.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Top-Dressing.—There are various perennials which, when grown in beds or masses of any kind, are benefited by an annual top-dressing. Lily of the Valley is one of these, for unless liberally cultivated, good spikes and large blooms cannot be obtained. From 2 inches to 3 inches of spent hot-bed or Mushroom manure makes an excellent top-dressing either for Lily of the Valley or for Daffodil beds, especially the commoner varieties, where they are grown in masses for cutting. Dog's-tooth Violets, Scillas and Grape Hyacinths should receive about an inch of maiden loam; failing this, old potting soil, with a little manure such as I have just indicated. Varieties of Primula Sieboldii should also have a similar top-dressing, but only just deep enough to cover the fleshy rhizomes.

Marking Bulbous Plants.—Where valuable bulbous plants are interspersed among the general run of hardy border flowers, it is often difficult to locate them when wanted, some of them ripening their foliage early in the summer, while others have not begun to push when the beds or borders are being forked or dug over in the spring. To obviate the difficulty I have found it a good plan to insert a green-painted hard-wood peg about an inch thick at each plant or clump. A stock of these pegs could be made and painted during bad weather, to be ready for use when growth commences in the spring. Oak or Ash is very suitable for this purpose.

The Rock Garden.

The Beginner's Selection.—Those who are commencing rock gardening on a moderate scale, and are undecided as to what to order for early spring planting, will be well advised not to be too ambitious at the start, or disappointments are sure to follow. Commence with things that succeed with ordinary cultivation. One can never be far wrong with a good selection of Campanulas, Phloxes, Primulas (for the lower reaches), Saxifrages, Dianthuses, Myosotis rupicola, Aubrietias, Lithospermum prostratum, Saponaria ocymoides, Veronicas and Viola gracilis. I would also include that gem Daphne blagayana, which, unlike any of the foregoing, requires stony peat. All the others indicated will thrive in either rich or light loam.

The Pleasure Grounds.

Clothing Tree Stumps.—Where trees have been cut down to the ground and the process of grubbing out the roots is considered rather troublesome, the stumps can be mounded over with soil and then planted with some of the Mossy Saxifrages or Sedums.

Summer-Houses.—Those intending to invest in a summer-house have great choice. There is the ready-made, portable, revolving type; also the substantial and durable type covered with rustic work of Larch, Spruce or Oak. During this autumn I revisited one in Aberdeenshire which I have known for half a century. Inside it is done in rustic work with split Hazel. It has been revarnished from time so time, and it looks as fresh to-day as it did fifty years ago. Much, however, can be said in favour of the inexpensive plain wood in summer-houses, covered with natural climbing plants, Honeysuckle, Hops, Clematises, Roses and other quick-growing plants.

Plants Under Glass.

The Chrysanthemum Order.—Those who intend purchasing new varieties should place their orders without delay. A perusal of the trade lists will show that the singles are now in the ascendant, and I will confine myself to suggesting a few varieties of these which are well worth growing: Ceddie White, chestnut, with gold centre; Ivor Grant, rose pink, with white zone; Josephine, golden yellow; Manor House Terra Cotta; Mensa, white; Golden Mensa; Mrs. Loo Thomson, a primrose sport from Mensa; Sylvia Slade, rosy garnet, with white band round the disc; and Red Chief, chestnut. Ceddie White makes lovely sprays, but all the other varieties indicated had better be disbudded.

Christmas Decorations. — The extent and character of these must depend upon the size of the rooms, the taste of the owner, and the quantity of material available. Evergreens, Holly and Ivy are always useful. Berried plants are generally acceptable. Solanums, Rivinia humilis, Cratægus Pyracantha, Cotoneaster microphylla, C. Simonsii and Skimmia japonica are all eligible. White flowers, too, are always in good taste, and should include Roman and other white Hyacinths, Paper-White Narcissus, Lilium Harrisii and Lily of the Valley. Simplicity should be the aim of the decorator. A trail of Ivy twined naturally round the stem of a tall reading lamp cannot be improved upon, nor can a sprig of berried Holly in the hand of a statuette.

Fruits Under Glass.

Potting Off Early Tomatoes.—Where Tomato seed was sown last month for early use, the seedlings will now be fit for potting off, and care must be taken with the seedlings, or damping off is likely to ensue. Use 2½-inch pots and employ a fairly sandy loam without any fertiliser. Instead of placing the plant in the centre of the pot, put it on one side, and this will reduce the risk of damping off. Place the plants in as light a position as possible, with a temperature of about 55°, and water rather sparingly. Retain the surplus plants for a time, lest damping off should take place.

The Vegetable Garden.

Top-Dressing Mint.—Mint is a very exhausting crop, and should receive a good, rich top-dressing annually. The early spring is perhaps the ideal time for this; but a hundred things require attention then, and it can be done now with advantage.

Greens.—Do not throw away the stems when the plants have been cut over; they will yield a second crop in the spring. CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

GARDENING ACROSTICS.

As announced in our issue for November 22, we are publishing eight gardening acrostics, to be divided into two sets of four each. Each light correctly guessed will count one, and also each "first" and each "last." Thus, supposing the whole is China (firsts), Aster (lasts), the full marks will be seven—one for China, one for Aster, and one for each of the five lights C . . . A, H . . . S, I . . . T, N . . . E and A . . . R. Hence, suppose a competitor got everything right but the light I . . . T, he would count six, and it would not matter if he attempted to solve that particular light or not.

Those entering for the acrostics must observe the rules published on page 607 of the issue for December 6.

DOUBLE ACROSTIC No. 3.

Firsts—One of the oldest artificial forms of gardening. Matius introduced me into Rome.

Lasts—The very latest absurdity of our neighbours across the Channel.

1. The author of these lines:
   "How well the skilful gardener drew
   Of flowers, and herbs, this dial new;
   Where from above the milder sun
   Does through a fragrant zodiac run,
   And as it works, the industrious bee
   Computes its time as well as we!
   How could such sweet and wholesome hours
   Be reckoned but with herbs and flowers."
2. The surname of the man who first wrote an English book on flowers, not in the "herbal" style.
3. A mysterious disease, so affecting the leaves of certain trees as to suggest its name.
4. A chorister and courtier, a farmer and poet, from whom we get many pre-Gerardian hints about English gardens.
5. A species of Tree Mallow known to Abercrombie, but which only last year received an award of merit.
6. A Pear of Shakespeare's day, possibly introduced by Leland.
7. Devil's Dye.
8. I am half covered with a cupula.
9. The Swan River Everlasting.
10. Stored up by the Dahlia.
11. A special *bête noire* of Repton's.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than the first post on Saturday, December 27. Mark the envelope "Acrostic" in the top left-hand corner.

SOLUTION AND NOTES OF DOUBLE ACROSTIC No. 1.

CLIMBER—TENDRIL.

*	1.	C	AS	T
†	2.	L	ETTUC	E
‡	3.	I	XIOLIRIO	N
§	4.	M	AUN	D
‖	5.	B	AKE	R
¶	6.	E	ICHLER	I
**	7.	R	UNCIVAL	L

* Flower-pots are usually sold by the "cast"—sixty small 3-inch pots go to a cast. † See "History of Cultivated Vegetables," second edition, Vol. I., pages 316 and 317, by H. Phillips. ‡ The Ixiolirion tataricum is probably hardy in light, sandy soils; it has lovely blue flowers, which remind people of Freesias; they last well in water. § The quotation is from Mrs. Earle's "Pot-pourri in a Surrey Garden." ‖ J. G. Baker of Kew. ¶ Eichleri is one of the best of the newer "species" Tulips for garden decoration; see *Botanical Magazine*, plate 6191 ** Tusser, who wrote "Five Hundred Pointes of Good Husbandrie," thus speaks of the runcivall pea:

"Dig garden, stroy mallow, now may ye at ease,
And set (as a dainte) thy runcivall pease."

—Quoted in "History of Gardening in England," third edition, page 86.

RESULT OF ACROSTIC No. 1.

In accordance with our rules, it was possible for competitors to get nine marks for this acrostic, one for each of the seven lights and one for each correct "first" or "last." The following marks have been awarded:

Nine marks.—"W. R. D.," "Elm," R. Chapman, "White Lady," "Hero" and L. A. Louden.

Eight marks.—"Mona," "Nautilus," "Jan," G. Tolson, "Ping," "Erbel," "Rusticus," "Judith," "Penwarne," "Westbank," "Shelah" and "Tortoise."

Seven marks.—"Iris," "Tempus Fugit," "E. C. F.," "Miss Marindin," Mrs. Devenish "Miller" and "Boarsvale."

Six marks.—"Anna Olivier" and William Slocombe.

Five marks.—"St. Kevins," "Mowgli," G. D. King and "P. P."

Four marks.—A. Henderson.

Two marks.—"Tentamen," M. Browne, Wm. Acwalt and G. B. Bassett.

One mark.—"Glevum."

OBITUARY.

MARTIN JOHN SUTTON.

It is with deep regret that we have to record the death, in his sixty-fourth year, of Mr. Martin J. Sutton, J.P., which occurred suddenly on Sunday last at the Piccadilly Hotel, London. He was the head of the famous Reading firm, and had been staying in London for the Smithfield Club Show, of which he was a vice-president. An anæsthetic had been administered to him for a dental operation, and death ensued. Mr. Sutton was the eldest son of the late Mr. Martin Hope Sutton, who, with his brother, Alfred, founded the seed establishment at Reading. He entered the business at the age of sixteen, and in 1871, when he came of age, was taken into partnership by his father and uncle. In 1887 he became head of the firm, and continued so until his death. It was in agricultural circles that Mr. Sutton was most widely known. For nearly a quarter of a century he was a leading member of the Royal Agricultural Society, while he was connected with various other societies, including the Bath and West Society, the Royal Counties Society and the Smithfield Club. Mr. Sutton was much appreciated as a writer on agricultural subjects, his best-known work being "Permanent and Temporary Pastures." To the end he continued to supervise actively the business of the firm, and only a few months ago, in conjunction with his brothers and sons, he conducted the negotiations, so important in the horticultural world, in taking over Messrs. Veitch's seed business and the nursery at Langley, Slough. Mr. Sutton was a great philanthropist, being a generous subscriber to religious, social and other clubs. He was a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England and a Chevalier of the Legion of Honour. He resided at Wargrave Manor, Berkshire, and was a Justice of the Peace for Reading and for Oxfordshire, a member of the Berkshire County Council, and Mayor of Reading in 1904. Mr. Sutton was twice married, his second marriage taking place in 1912. There are two sons and a daughter by the first marriage, the latter being the wife of the Vicar of Wargrave.

THE LATE MARTIN JOHN SUTTON.
(Photo Elliott and Fry.)

JOHN PEARSON.

Mr. John Pearson, the gardener at Beechwood, Murrayfield, Edinburgh, died on December 10, and many will receive the news of his death with regret. Mr. Pearson was in his seventieth year, and was much respected for his character and for his ability as a gardener.

ANSWERS TO CORRESPONDENTS.

THE GREENHOUSE.

ARUM LILIES GONE WRONG (*Reader*).—If the plants were healthy before, we should say that the cause of the leaves being discoloured and turning yellow must be found in the soil or in the water given them. Have you used artificial manures too freely, or have you given too much soot?

BEGONIA GLOIRE DE SCEAUX (*W. H.*).—This Begonia was raised by MM. Thibault et Keteleer of Sceaux in France, and distributed by them in 1885. By the raisers it was announced as a hybrid between Begonia socotrana and B. sub-peltata, but doubts have before now been expressed as to whether B. socotrana had any part in its origin. At all events, no further information on the point can be gained. It is indeed a beautiful Begonia, regarded either from a flowering or foliage point of view.

ADVICE ABOUT A GREENHOUSE (*N. H. L.*).—The amount of ventilation required in the greenhouse will to a certain extent depend upon the class of plants you intend to grow therein. It is, however, a good plan to ensure ample ventilation, and the ventilators not required may be kept closed. Of course, the main ventilation will be at the apex of the roof, and may be arranged in various ways. If the house has a lantern on the top, the side of the lantern may be hinged on the upper part and open at the bottom by means of a ratchet acting on all the ventilators at the same time. This is, of course,

the most expensive system of all, but decidedly the best. Another plan, if there is no lantern, is to have hinged lights along the top, extending the whole length of the house, but disposed alternately. These should be so arranged as to allow of the opening being 15 inches in depth. This will be enough roof ventilation, even on a hot day. Besides this, three traps should be worked in each of the side walls at about half their height. These traps, if 18 inches long and 8 inches or 9 inches wide, will be extremely useful for opening, especially in bad weather. The height of the central stage will, of course, depend upon the plants that are intended to stand thereon, but 3 feet would for general purposes be a very good height.

TREATMENT OF CLIVIAS (*Anxiety*).—The Clivias that have been outside during the summer should be wintered in a greenhouse in which a minimum night temperature of 45° to 48° is maintained. They should, during the winter, be kept on what is usually termed the "dry" side, that is to say, enough water must be given to keep the soil moderately moist, but on no account must they be watered till they absolutely require it. Clivias flower, as a rule, during the spring months, but one or two uncommon kinds bloom in autumn and winter. If the roots are in good condition, the plants will stand for three or four years without repotting, and keep in good health even if they are pot-bound. A 10-inch pot should be sufficient for a large specimen. If repotting is necessary, it must be done immediately after flowering, using a compost made up principally of fibrous loam, with a little leaf-mould and sand, and, if available, some small nodules of charcoal. Throughout the summer the plants may be watered somewhat liberally, but the newly-potted ones will not require so much water as those that are established. These last may, when growing, be assisted with an occasional stimulant, either one of the many plant foods now on the market or a mixture of liquid manure and soot-water combined. In any case, as with all plants that have thick fleshy roots, only a weak dose of stimulant must be given, otherwise the roots may be injured.

MISCELLANEOUS.

SHRUB FOR A LOW PORCH (*R. W. R.*).—You will find Berberidopsis corallina a suitable climber for the position indicated. It is a native of Chili, and bears a profusion of showy, coral red blossoms. It has also the merit of being evergreen.

MILLIPEDES (*H. A. F.*)—The little pests you send are millipedes. They are extremely troublesome pests, and very difficult to eradicate. They feed on all sorts of fleshy roots and even large seeds, and do enormous damage. Liming the soil is the best method of dealing with them, but where plants are growing this cannot be easily done, and it would be well to bury pieces of Potato or Carrot, marking the places with sticks, and examine and remove the captures every few days, dropping them into paraffin or boiling water.

PLASTER OF PARIS AS A MANURE (*E. L. E.*).—You may certainly use the plaster of Paris moulds in the way you suggest. Plaster of Paris is sulphate of lime or gypsum from which the water of crystallisation has been expelled, and which takes up water when it is able to get it again and sets in a hard mass. If this mass be ground again to a powder, it is practically the same as sulphate of lime, and may be added to soil for the same purpose as that substance is used. The sulphate is not quite so good in counteracting acidity of the soil as are some of the other forms of lime, but at the same time it has a very beneficial effect upon the soil, and both clays and sands are made more productive by its use.

NAMES OF PLANTS.—*W. E. P.*—1, Solanum jasminoides; 2, Coronilla Emerus; 3, Nephrolepis cordifolia; 4, Campanula isophylla.——*C. S. S. J., Edinburgh.*—1, Thymus Serpyllum lanuginosus; 2, Saxifraga cuneifolia; 3, Veronica elliptica; 4, Lonicera species, cannot name without flowers; 5, Erysimum rupestre; 6, Tolmiea Menziesii; 7, cannot name without flowers; 8, Erigeron alpinus variety; 9, Claytonia sibirica (probably); 10, Sedum prealtum; 11, Selaginella kraussiana; 12, Tradescantia crassifolia.

SOCIETIES.

THE NATIONAL ROSE SOCIETY.

THE annual general meeting of the above society was held at the Westminster Palace Hotel, Victoria Street, Westminster, on Thursday, the 11th inst. Mr. C. E. Shea, the president, was in the chair, and a large number of members were present. After the minutes of the previous meeting had been taken as read, scrutineers of the ballot were appointed, these being Messrs. C. C. Williams and H. E. Mount. Before commencing to read the report of the Council for 1913, Mr. E. Mawley, V.M.H., the hon. secretary, read a telegram from Mr. E. T. Cook, president of the Rose Society of Canada, conveying good wishes from the Canadian Society to the National Rose Society. The following are the salient points of the report:

"During the past twelve months, with one exception, more new members have joined the society than in any previous year. For the first time in the history of the society the number of members exceeds six thousand.

In order to encourage growing Roses under glass, a new departure this year was made by holding a spring show in the Royal Horticultural Hall, Westminster, on May 1. Considering it was the first exhibition of the kind ever held in this country, and that the cold and sunless weather somewhat upset the grower's calculations as to the date, it must be regarded as having been, on the whole, a success, and judging from the interest displayed by the members and their friends in the exhibits, this spring Rose show of the society promises to become an extremely helpful and popular exhibition.

The metropolitan show again took place, by the kind permission of the President and Council of the Royal Botanic Society, in their beautiful gardens in Regent's Park, the date of the exhibition being July 4. Favoured by the season and the weather on and before the show day, this proved the largest and finest exhibition the society has ever held. The attendance of members and their friends was also larger than on any previous occasion.

The provincial show took place at Gloucester on July 15. This, too, was a fine and extensive exhibition; indeed, larger than either of the three previous provincial shows. The arrangements for the exhibition were excellent, and admirably carried out by the hon. secretary, Mr. W. H. Pickford, assisted by other members of the local committee.

The autumn exhibition, which was held in the Royal Horticultural Hall, Westminster, on September 11 and 12, proved one of the smallest and least attractive shows of the kind the society has yet held. This was, no doubt, owing to the dry and otherwise unfavourable character of the weather, so far as Roses were concerned, during the summer and early autumn of this year.

During the past year the 'Rose Annual for 1913,' containing for the first time some coloured illustrations, was distributed to the members in April, while a new edition of the 'Official Catalogue of Roses' was sent out in November.

At the last annual general meeting the Dean Hole Memorial Medal was awarded to Mr. George Dickson of Newtownards, County Down, Ireland, for the great services he has rendered to the Rose during the past half century in raising so many new Roses of special merit, and as one of the most successful pioneers in the scientific hybridisation of Roses.

The number of societies in affiliation with the National Rose Society is now fifty-five, or about the same as in the previous year.

The Council record, with regret, the death in January last of Mr. Alfred Tate, since 1904 a vice-president of the society, and a keen rosarian. His Rose garden at Leatherhead was the largest and finest in the kingdom, and his exhibits of decorative Roses were the best ever staged by an amateur. He was regarded with the highest esteem by all who knew him.

They also regret to announce the death in October last of Mr. J. T. Strange, whose genial nature endeared him to all with whom he came in contact in the Rose world. He was one of the society's oldest members, having joined the National Rose Society in 1877, when he was at once elected on the Council, and last year he became a vice-president of the society.

Judging by the amount received in gate-money from the general public at the exhibition in the Royal Botanic Gardens there was a good attendance of visitors. The receipts from all sources during the past year, including a balance from the previous year of £442 12s. 2d., amounted to £4,061 6s. 5d., and the expenditure to £3,586 10s. 6d., leaving a balance at the bankers of £474 15s. 11d., after £500 had been placed to the reserve fund, which now stands at £2,000.

During the past year 1,045 new members have joined the society, or a greater number than in any previous year except 1910, when the number of new members was 1,050. Allowing for the losses by death and resignation, the total number of members is now 6,035. Taking the year as a whole, nearly three new members a day have been added to the list of membership.

The spring show will take place in the Royal Horticultural Hall, Vincent Square, Westminster, on St. George's Day, Thursday, April 23.

The metropolitan exhibition will be held in the Royal Botanic Gardens, Regent's Park, on Tuesday, July 7.

The provincial exhibition will take place, at the invitation of the Mayor and Corporation of Bath, in the Sydney Gardens of that city on Thursday, July 16.

The autumn exhibition will be held in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, September 24."

The financial statement was next read by the hon. treasurer Mr. G. W. Cook.

The president, in proposing the adoption of the report and financial statement, welcomed the ladies who were present, and drew attention to the fact that the year had been one of records and the most satisfactory in the annals of the society. They had put by the biggest sum by £200 than they had ever put on deposit before. The literature sent out had been better than ever. There was still more and better to come, so that members would get more than value for their money. The proposition was seconded by Mr. Frank Cant. In doing so, he said the balance sheet spoke for itself. He thought the distribution of useful literature was one of the wisest steps the Council ever took.

Mr. Lewis Pawle said he thought it was unwise to keep investing in Consols. Mr. Johnson said he would like to see ladies on the Council. He criticised the methods of voting. That afternoon one hundred or so members had elected the Council. All the county members were disfranchised. He would like a postal vote. Mr. W. J. Grant supported this. Mr. E. J. Holland spoke against the postal vote, and also said that it was quite open for ladies to be put on the Council if members would take the trouble to nominate them. The report and financial statement were, after other friendly discussion, carried unanimously.

The chairman then proposed that an honorarium of £150 be granted Mr. Mawley as an appreciation of his services. This was seconded by Mr. G. W. Cook. Mr. Mawley had done, and was still doing, a vast amount of valuable work for the society, and they could well afford to increase his honorarium from £100 to £150. This was unanimously agreed to with acclamation. Mr. Mawley, in responding, said the most difficult nut he ever had to crack was to express his appreciation of what had been said.

The next business was the alteration of certain rules and by-laws, full particulars of which had been sent to every member. Only one of these, viz., By-law No. 7, gave rise to any appreciable discussion. The proposed alterations in this by-law were for the purpose of more clearly defining what is meant by an amateur, and we publish this herewith, the alterations being in italics: "By the word nurseryman is understood a person who maintains a garden, or other horticultural establishment, for the purpose of *returning him a profit*. By the word amateur is understood a person who maintains a garden with a view to his own use and enjoyment, and not for the purpose of gaining a *profit*. No person shall be allowed to compete as an amateur who sells Rose plants, Rose blooms, or buds for budding. *As exceptions to the foregoing (a) an amateur may sell his Rose plants when giving up possession of the garden or place where they have been grown, and (b) an amateur may sell new seedlings or sports of his own raising, but only to nurserymen. No person shall be allowed to compete as an amateur who is a resident member of a household where a nursery business is carried on, nor any person who issues a catalogue or price list of Roses, buds for budding, or other horticultural produce.* No lady may exhibit as an amateur who is engaged in the floral or horticultural trade, or *who* is herself a paid gardener, *or paid floral decorator*, or *who* is a resident member of the family of one engaged in such trade or employment. Any objection raised as to the rightful qualification of an exhibitor shall be referred to the Council for arbitration, and their decision shall be final and binding on all parties."

Dr. Waddell, the Rev. J. H. Pemberton and one or two others protested against the proposed alterations, on the grounds that amateurs who raised new seedlings were deprived from recuperating themselves financially to the fullest extent. It was to the amateur that they must look for new breaks in seedling Roses, and the National Rose Society ought to encourage amateurs instead of putting obstacles in their way. After a good deal of discussion the proposed alterations were carried by a large majority. The ballot for election of members of the Council resulted in all the proposed members being elected with the exception of Mr. R. F. Felton.

After the meeting a conversazione was held, when light refreshments were served, or, rather, scrambled for, to the accompaniment of delightful music. We would suggest that the Council another year hold this pleasant gathering at the Albert Hall or some other large building, so that the large number of members and friends can meet in comfort.

Proposed Edinburgh Winter Garden.—For a considerable time a proposal to erect a winter garden in the West Princes Street Gardens, Edinburgh, has been under the consideration of the Town Council, and several schemes have had much attention paid to them. The proposals were decidedly advanced at a meeting of the sub-committee appointed for the purpose of considering the matter on December 11, when it was unanimously agreed to recommend to the Lord Provost's Committee, which has charge of the consideration of the subject, that a winter garden be erected. Should the committee accept the scheme, and should it be agreed to by the Town Council, the City of Edinburgh would be in possession of a structure which would be a source of much advantage and enjoyment not only to the citizens, but also to the many visitors. At present the latter have few public places in which to shelter in inclement weather, except the somewhat dreary expanse of the Waverley Market under its ordinary conditions. The scheme, which has been prepared by Mr. J. W. M'Hattie, the Parks Superintendent, and Mr. J. A. Williamson, City Superintendent of Works, is estimated to cost about ten thousand pounds. It provides for the erection of a winter garden composed of stonework and steel, and situated at the east end of the West Princes Street Gardens, next the Mound, and in what is at present about the least attractive part of these gardens. The building would provide seating accommodation for a large number of persons, with suitable provision for plants, together with promenades decorated with flowers and plants. The plans appear to be excellent in conception and in design.

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THE GARDEN.

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EDITORIAL NOTICES.

Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street Covent Garden W.C.

NOTES OF THE WEEK.

Votes for Gardeners' Royal Benevolent Institution.—We shall be glad if any readers who have votes to spare will kindly send us their signed voting papers. We are interested in a thoroughly deserving case, and the votes will be utilised to the best advantage.

Burning Garden Rubbish.—It is a good plan, where it is possible, to keep a smouldering heap going, particularly through the winter, so that all tree or bush prunings and other dead material that is cut from the beds and borders, as well as weeds when they are not too wet, may be burnt. The ashes are excellent manure for most crops, but should be kept in a heap until they are required, for if scattered about they lose much of their valuable properties.

Preparing to Plant Bush Fruits.—Those intending to plant Gooseberries or Currants in early spring should lose no time in preparing the ground for their reception. The ground should be bastard-trenched and receive a good dressing of organic manure, to be incorporated with the top spit. If the soil is light, cow-manure will be most suitable; but if the ground is heavy, stable manure will be best. Add a little wood-ashes if available. Lime can be applied and raked in after planting in spring.

General Index to this Volume.—As the present issue completes Vol. LXXVII., we are presenting a general index, together with a title-page and frontispiece suitable for binding the whole of the numbers published during the present year. Next week we shall publish our Special New Year Number, which will be considerably enlarged and contain many new and interesting features. We take this opportunity of thanking those of our readers who have sent us seasonable greetings, which are heartily reciprocated.

Grass Orchards.—These are perhaps not so much in evidence as they once were. Nothing, however, can be said against the system if judiciously carried out. One thing has been abundantly proved, viz., that if the best results are to be obtained, a circle of 6 feet to 8 feet in diameter must be cultivated round each tree. Those, therefore, who have hitherto allowed the grass to grow right up to the stem of the tree will do well to scarify round it for the distance indicated above, and then fork in some rotten manure and bone-meal.

The Treatment of Early Bulbs.—Many varieties of early Tulips, Narcissi and Hyacinths should be introduced into heat for blooming early in the year. Those that are pushing up their flowers must be carefully handled to get the best results, maintaining a fair amount of heat and moisture where they are being forced, so as to get as good a stem on them as possible. Although not always admired, the Duc van Thol varieties of Tulips are useful during the Christmas season, particularly as there will be a shortage of flowers during the next two or three weeks. Owing to the Chrysanthemums being much earlier than usual, all other kinds of bloom will be in demand.

Streak Disease of Sweet Peas.—The National Sweet Pea Society, with the object of securing a preventive and cure of the disease known as streak, are offering a prize of ten guineas and the gold medal of the society to the first person who can prove to the satisfaction of the committee that he or she has a cure. As arrangements are now being made for testing preventives or remedies, anyone who has discovered a cure should communicate at once with the secretary, Mr. H. D. Tigwell, Greenford, Middlesex, who will be pleased to furnish full particulars. Will any members of the society whose Sweet Peas have been badly attacked by streak, and who are prepared to test remedies, please communicate with the secretary?

Double-Flowered Chinese Primulas. — The readiness with which fairly double forms of the Chinese Primula can be raised from seeds has led to the almost total disappearance of the very double-flowered kinds. The old double white, which used to be grown by the houseful to supply Covent Garden Market with flowers, is still occasionally to be met with, but the varieties with blossoms of an exceedingly duplex character which were raised by the late Mr. Gilbert when at Burghley seem to have totally disappeared. They created quite a *furore* in 1877 and 1878, when no fewer than five of them were given first-class certificates by the Royal Horticultural Society. The varieties were Earl of Beaconsfield, Marchioness of Exeter, Mrs. Barron, Princess, and White Lady. These could only be propagated by cuttings or layers, and consequently they realised good prices for some time.

Funeral of the late Martin John Sutton.—The funeral of the late Martin John Sutton took place at Sonning Church, near Reading, on the 17th inst. The edifice was filled with members of the family, relatives and friends, and a great many visitors were at the graveside. Simultaneously a memorial service was held at Greyfriars Church, Reading, where many members of Messrs. Sutton and Sons' staff attended. Among those present at Sonning Church were Sir Bowen Jones, Dr. Voelcker, Mr. Franklin Simmons, Mr. A. H. Matthews, the Mayor of Reading, M. Philippe de Vilmorin, Mr. N. N. Sherwood, Mr. John Collingridge, Mr. George Gordon and Mr. F. W. Harvey. At the memorial service at Reading the Deputy-Mayor and Corporation attended in their robes, others present being Lord Moreton and Mr. McRow of the Royal Agricultural Society, Mr. Powell of the Smithfield Club, and Mr. J. Lousley of the British Dairy Farmers' Association. A great many wreaths and other floral tributes were sent, including one from the Agricultural Seed Trade of the United Kingdom.

CORRESPONDENCE.

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

Some Interesting Seedling Snowdrops.—Seedlings from Galanthus cilicicus (the so-called Autumn-flowering Snowdrop), from seed sown in 1909, are now blooming here profusely for the first time, but they did not commence to open until December. The pollen used was that of Galanthus Elwesii, but so far they do not seem to vary from the seed parent in any visible respect, the flowers, and especially the distinct foliage, taking after G. cilicicus. A good many of the flowers have a small green blotch on the outer petals, and they vary somewhat in height.—F. HERBERT CHAPMAN, *Rye.*

Snow in the Garden.—The summer aspect and conditions of the garden would in time become decidedly monotonous if such continued indefinitely, and the winter brings a welcome change and rest. The view presented on a winter morning is very impressive, the branches being weighed down, bowing, as it were, with reverence for Nature's fiercest element—King Winter. The old-fashioned winter may be considered by some to be a thing of the past, but a fall of snow, when it comes, puts quite a new series of pictures before lovers of Nature. Snow scenes in the garden are very beautiful, and though they may not last long in this changeable climate, they provide pictures not only for the memory, but for the camera, by means of which they can be recorded. The photograph I am sending will give some idea of the charm of conifers when partially clothed with a mantle of white.—E. E. CARTER, *Romford.*

A WINTER SCENE WHERE GARDEN AND WOODLAND MEET.

Hints to Compilers of Schedules.—Promoters of horticultural exhibitions will now be arranging their schedules. I have often thought how much better it would be if, instead of cups and medals, useful articles were offered for prizes. From my own experience of those responsible for the necessary polishing, &c., they become a useless annoyance, and are often put away out of sight. As for medals, they are neither use nor ornament. For instance: A provincial exhibitor takes a collection to London at, often, great cost, and possibly obtains a bronze medal, which seldom afterwards will see the light of day. In place of such useless articles, why not a silver table-centre, Rose-bowl, corner table, silver flower-vases, a tall vase for specimen blooms, sugar-basin and cream-jug, tea and coffee service, and salver, with inscriptions? Such articles would be a pleasure for those responsible in the household instead of being a nuisance. I have heard ladies remark that flower show and other exhibition committees should have the assistance of ladies in the selection of useful prizes; then the household and posterity would look upon deserved honours with pleasure instead of the reverse.—A. C.

Gas Boilers for Greenhouse Heating.—Reading the article on these in THE GARDEN for November 29, page 600, reminded me of a garden in this locality, which I was looking round in the summer, where two small houses are so heated. The gardener, who went but three or four days weekly to this particular place, told me the gas-heating arrangement answered splendidly, and was easily managed by his employer on the days he was not there and in the evenings. I did not ask the name of the boiler used, but it was connected with the meter in the house and turned on and off from outside the greenhouses, around which were pipes of 3 inches diameter. In another large garden in this district the conservatory used to be warmed with a gas boiler, but that has since been discarded for the usual method—firing. From an economical standpoint coke and coal are first; but for cleanliness, easiness and promptness—especially when dealing with small structures—gas wins.—C. T., *Highgate.*

Which is the Guernsey Lily?—I have read Mr. Jacob's letter on page 619, issue December 13, with interest, and after referring to the *Botanical Magazine*, plate 294, agree with him that this illustration represents the form which we now know as rosea, and not the form usually sold as sarniensis, which is inferior in size and much more orange in colour. Some years ago Lord Northbrook gave me some bulbs received from South Africa, of which the larger produced N. rosea, and the smaller what I have hitherto called N. sarniensis. Both of them, like the cultivated bulbs usually sold, were very shy in flowering as compared with their hybrids, and also as compared with N. Fothergilli and N. Meadowbanki, which are the best of the old varieties for general cultivation. All of these flower early in comparison with the majority of the strain which I have been raising for years, and which are also much more floriferous than the imported bulbs. It is much to be desired that some resident in South Africa who knows the plants in their native country would give us particulars of the extent of variation which exists in Nature, and tell us something about their habitat and life-history. From their behaviour in cultivation I expect that most of them grow in places where the rainfall is very irregular and where frost does not occur.—H. J. ELWES, *Colesborne.*

Mildew on Roses in Canada.—In your issue of November 8 your correspondent "E. M." writes of a preparation called Serum that he has tried with wonderful results as a cure for mildew on Roses. I should be very glad to hear whether other readers of your most useful publication have given Serum a trial, and with what results. Mildew is very troublesome here—Victoria, B.C.—and as my garden is near the sea and exposed to our prevalent cold winds, I have no doubt this aggravates the disease. I have tried spraying regularly with potassium sulphide, as recommended by the National Rose Society, also with formaldehyde, lysol, lime and sulphur, and some other recipes, all with little or no results. It seems curious that Roses that are very liable to mildew in England, in many cases are not so liable to it here, and *vice versa*; for instance, most Roses of the "mult-scans" type, like Crimson Rambler, do not suffer from mildew to the same extent as do the wichuraianas. All my wichuraianas were completely spoiled by mildew last summer, while Crimson Rambler, Yellow Rambler, Ards Pillar, Flower of Fairfield and Mme. Alfred Carrière were only slightly affected. Out of 123 different varieties of Roses of all types in my garden, only eleven showed no sign of mildew, viz., Blush Rambler (Cant), Aglaia, Conrad F. Meyer, Jessie, Rayon d'Or, the Irish singles Elegance, Beauty, Modesty, Harmony, and, lastly, the Sweet Briars Lady Penzance and Meg Merrilies. I should also like to know whether Serum is any good as a preventive or cure for black spot, which plague was introduced into my garden last summer by planting some "treasures"—Juliet, George Dickson, Mme. Charles Lutaud, British Queen and Sunburst. These were imported from France, and I apparently imported a fine crop of black spot into the bargain, much to my disgust, as I had had no sign of that trouble before. I treated the plants with formaldehyde, with no apparent result.—CHAS. R. SERJEANTSON, *Room 617, Sayward Building, Victoria, B.C.*

Early Tomatoes in Canada.—It would be interesting to know if any reader of THE GARDEN has grown the early varieties of American Tomatoes in England in the open. These, while rather coarse and small, are very hardy and early, and are grown in large quantities in Eastern Canada for early use. There are several varieties. Earliana is the first to ripen, and Chalk's Early Jewel comes about two weeks after. The seed is often sown outside early in May and the seedlings transplanted in the fields. Some years ago, near Montreal, I tried several of the early English varieties, and although they produced large fruit of better shape, they were not so early as the American varieties. In British Columbia, where the climate is about the same as in England, Earliana ripens in the open and produces good crops. I should be pleased to send seed to anyone who would like to try them this season.—T. SHEWARD, *Hillbank, Vancouver Island, British Columbia, Canada.*

Acantholimon venustum.—To the majority there is more than a modicum of truth in Mr. Malby's statement on page 622 that this precious midsummer-flowering alpine is difficult to propagate, though this may be done in a variety of ways. Further, your correspondent adds that "it is said to come well from cuttings when the necessary skill has been attained." And this is true. As Mr. Malby does not apparently furnish the "necessary skill," may I be permitted to supplement his remarks? In the first place, for all practical purposes, it is almost impossible to increase this species by division, its root system being generally opposed to it, and the plants of our acquaintance insufficiently large to admit of it being successfully done. Layering might be similarly dismissed; hence the cultivator is left with three methods of propagation at his disposal—cuttings, root-cuttings and seeds—all of which are good. Only one type of cutting, however, is of the least service, viz., that with a heel attached and one of comparative youthfulness. Cuttings such as this inserted in June or July give little trouble if the recently-formed shoots are secured. Almost pure sand is the best medium; a cold frame the best place. The root-cutting system is a far more reliable way to the alpine-grower of limited experience, though I do not know why Mr. Malby employed roots "10 inches long." In that length there would be ten cuttings if the root was of any size. Root-cuttings may be inserted in January and February, and are best in a greenhouse temperature or very gentle bottom-heat. The great obstacle in the way of root propagation is that of plants large enough to supply them, while there is a certain amount of risk to the plant in being disturbed and mutilated at the time named. Seeds, when procurable, present no difficulty whatever; the difficulty is in getting supplies, or at least any quantity, unless pollination is resorted to. This is, however, well worth while, seeing the value of the subject. Curiously enough, the commoner A. glumaceum will not only submit readily to division, but will root more freely from cuttings. Nodal cuttings I have found, however, are not of the least use.—E. H. JENKINS.

FORTHCOMING EVENTS.

January 13, 1914.—Royal Horticultural Society's Exhibition and Meeting at Vincent Square, Westminster.

January 19.—National Chrysanthemum Society's Executive Committee Meeting.

THE FLOWER GARDEN.

THE HERBACEOUS SPIRÆAS.

WHILE the genus Spiræa is of considerable extent, the herbaceous species constitute but a comparatively small proportion of it. Those that do, however, possess an importance of their own, chiefly because of high decorative value for the most part, and particularly so when intelligently employed in water-side gardening. It is here, indeed, as also in the cool and rich soils of the garden, that the plants grow most luxuriantly, yielding of the abundance of their fleecy panicles in no ungenerous or uncertain way, and, provided space is permitted them, of that fine form which is among their greater assets. Hence to plant them well the gardener should know them well, know something at least of the development of a ten year old specimen in order that it may develop unhindered, unchecked by other plants whose habit of growth and stature may be of a like character. In such circumstances the noblest of these Meadow-sweets will embellish their surroundings, adding dignity and not a little importance to the spot they are intended to ornament. Too frequently, I think, the ultimate development of a plant is either unknown or insufficiently considered by the gardener, the net result a cramped or huddled mass incapable of displaying the plant at its best. One has frequently seen the Japanese Anemone, a plant endowed with rare beauty and fine form, so treated, crowded in by other subjects in such a way that one-half of the value of the picture is lost. So unique a subject is well worth considering apart, employing it rather in isolated groups or affording it a flanking position where it could be seen to advantage. When employed as a border plant, however, the great spread of its well-cut leaves is worthy of thought, and, given this, the right place or environment will follow in due course. These remarks are equally true of the bolder Spiræas, which can hardly be given a fair chance in an ordinary herbaceous border. By water-side or streamlet, or the approaches to woodland scenes, where the soil is cool and deep, the plants may be made much of, and in all such they may be grouped with a free hand.

Culturally, the chief item meriting attention is that once well planted they should remain for several years undisturbed; hence a deep bed of well-enriched soil should be at their command. Such a bed may be prepared in all cases, where possible, to a depth of 3 feet, to the lasting benefit of the plants. Those having more or less woody rootstocks, as in the case of the Goat's-beard Spiræa (S. Aruncus), appear to resent root disturbance and division to a much greater extent than such as S. venusta or S. camtschatica. The first-named species is somewhat slow in establishing itself, and, if divided at the same time, the belittling effects of the dual operation will be seen for at least three years, even with the most generous treatment. Where division of the roots is contemplated, early autumn will be found a good time—probably the best—though the work may be done at other times during the dormant period of the plants. The dwarfer border sorts, *e.g.*, Filipendula and palmata, may also be divided in spring, with good results. Apart from these things, the plants are of the easiest culture, and are also perfectly hardy. Those named here are the most important.

Spiræa Aruncus (Goat's-beard Spiræa).—In its fullest vigour this fine plant may reach to 5 feet high and fully as much through; hence it needs catering for on generous lines. It is a plant of the highest ornament, beautiful in the disposition of its tripinnate leaves, and most effective in the gracefully-drooping plumes of its creamy white flowers, which appear in summer-time. Well-marked varieties are Kneiffi, with very finely-cut leaves, and plumosa, whose foam-like inflorescences render it both valuable and distinct. The typical species, which has been known to cultivators for nearly three centuries, had a wide distribution in Europe, Asia and America. A lover of rich soils and moisture.

S. astilboides.—A species of unusual merit and excellence, one, indeed, that, like the Goat's-beard Spiræa, might be considered first-class for water-side planting. In the branched feathery panicles of its flowers it is quite distinct, somewhat dwarfer and perhaps even more graceful than the last named. The flowers are creamy white. Japan. A form known as floribunda is of more compact growth, and much in demand for pot culture.

S. camtschatica.—A giant in its way, attaining, on occasion, 8 feet or 10 feet in height. Though of a lesser leaf spread than either of the above named, the plant is in some respects one of the most remarkable, its huge palmate leaves and spreading, fleecy inflorescences crowning the tall stems rendering it quite conspicuous. As S. gigantea this fine plant has gained some notoriety. S. rosea elegans is perhaps one of the most showy of its varieties, but there are others intermediate in colour between this and the original. All are of the same habit and highly ornamental.

S. digitata.—A native of Eastern Siberia, usually in moist meadows and sub-alpine regions. The plant has a prostrate tuft of pinnate leaves, from which the flower-stems issue to a height of 4 feet or so. The flowers are white or pink tinted. S. d. nana is virtually an alpine of 6 inches or 9 inches high. It is a pretty and quite rare form, with pinky white flower clusters.

S. Filipendula (Dropwort).—This dwarf-growing British species is characterised by much dwarfness and by its deep green, interruptedly pinnate, glabrous leaves, forming a spreading, prostrate tuft close upon the ground. The type is not much grown, its double-flowered form, S. F. flore pleno, being much esteemed as a border plant. It is less than 2 feet in height. Flowers white, with pink buds in loose, spreading panicles. The species is quite distinct in its tuberous roots. Easily increased by division in spring. Quite at home in the ordinary border.

S. lobata (Queen of the Prairie).—One of the gems among border kinds, and a plant of the easiest culture in rich soils, in which it will attain fully 4 feet in height. The flowers are of rosy carmine colour, and are arranged in terminal panicles. With moisture the plant is of taller growth, and is welcome anywhere in the garden by reason of its colour. S. l. magnifica has deeper-coloured flowers. Most frequently found in catalogues as S. venusta. Native of North America. Easily increased by division.

S. palmata.—In every sense a first-class plant, at once indispensable to pot cultivation, to cool and moist border soils, or near the water-side, where it is capable of brilliant effects by reason of the richness and rarity of its broad, corymbose panicles of rosy crimson flowers. Distinct in

1.—MISTLETOE ON APPLE THREE YEARS AFTER SOWING THE SEED.

habit and with some refinement, it is a peer among its fellows. A plant of the highest value to the hardy plant gardener. It revels in moisture and rich soils, and, given these, in addition to their distant shade at midday, its flowers last a long time in perfection. I know of no herbaceous subject capable of affording such a mass of lovely colour as this, none more worthy the best endeavours of the gardener. All the varieties I have seen, judged from the standpoint of their picture-making effects in the garden, are second-rate by comparison. They are alba, white; elegans and maxima, both having pink flowers. In response to a generous treatment, the plant may reach nearly four feet high, though the half of this is most usual. Native of Japan. Easily increased by division at any time when dormant.

S. Ulmaria.—This common British Meadowsweet, the inhabitant of marshy places and wet ditches in many parts of the country, is rarely cultivated. In all its forms it is worthy of a place in the wild garden, if not quite good enough for the border now that the choice of subjects is so great. E. H. JENKINS.

SOME PECULIARITIES OF MISTLETOE.

As everyone knows, the Mistletoe is a parasite living upon various trees. It is most often seen growing upon the Apple, but it is also met with on the Hawthorn, Willow, Poplar, Lime, Maple, Mountain Ash, and even on Cedar of Lebanon and Larch. There is a popular impression that the Mistletoe has a great liking for the Oak, while, as a matter of fact, the two are seldom found together. The rare occurrence of Mistletoe growing upon Oak was held sacred by the Druids and regarded as a Divine gift. Dr. Bull, in a paper in the "Journal of Botany," only mentions seven authentic instances of the growth of Mistletoe on the Oak in this country. Since then, however, other instances have been recorded.

The very slow growth made by the Mistletoe plant in the first few years of its existence has been a cause of anxiety to those who have fondly hoped to grow large bunches of Mistletoe in their gardens in a short space of time. Some idea of its rate of progress may be obtained from Fig. 1, showing what in reality is a promising young Mistletoe plant three years from the time of sowing the seed. The two large clusters of Mistletoe seen in Fig. 2 appear to be older than the Whitethorn which carries them. Such a result has been obtained by grafting the Mistletoe upon its youthful host. This is accomplished by removing the Mistletoe with a portion of the tree on which it is growing and grafting upon another tree.

Unquestionably, the most frequent host plant of the Mistletoe is the Apple, and it is notorious

2.—LARGE BUNCHES OF MISTLETOE GRAFTED ON WHITETHORN.

that some old orchards, notably in Herefordshire, carry heavier crops of Mistletoe than of Apples. A most singular thing concerning Mistletoe is that although it occurs on a wide range of trees and is so very common on the Apple, yet it is never found on the Pear. Some attempts to grow Mistletoe on Pear trees were made last year in Messrs. James Veitch and Sons' nursery at Langley by Mr. Allgrove, and the results were so remarkable that the subject has since been brought before the scientific committee of the Royal Horticultural Society. Mistletoe seed was sown on a number of Pear trees, and in many instances germination took place. In no case, however, did the Mistletoe get beyond the stage of germination, and no leaves were developed. The effect upon the Pear was very noticeable (see Fig. 3), for the Mistletoe, in its attempt to establish itself, killed all the tissue of the tree stem just within the bark, completely encircling the stem. All growth was killed above the point where the Mistletoe had germinated. C. Q.

THE KITCHEN GARDEN.

SEASONABLE NOTES ON VEGETABLES.

Winter Spinach.—In some soils Spinach at this season has a common knack of dying when the plants are a few inches high, owing, no doubt, mainly to the presence of some grub or insect pest attacking the roots. As a preventive sprinkle soot and wood-ashes freely over the plants and between the rows. During a spell of dry weather well stir the surface soil, about the plants especially; this will act as a deterrent to insect pests as well as a stimulant to growth.

Broccoli growing in heavy soil especially should have careful attention in the preservation of prematurely-formed heads by heeling them over to the north, thus giving double leafage protection to the forming heads. It is too early to heel over the main batch, those just now forming heads. From the side to which the plants are to lean dig out one spit of soil; then gradually heel over the plants by digging under the roots on the opposite side, thoroughly covering the stems with soil.

Mint.—This is one of the most important herb crops in the garden, and, all too often but meagrely produced, not succeeding as well as it should. The growth is usually too weakly to give the best results in the spring, when a quantity is required. Now is the time to endeavour to remedy such a defect and assist the next season's crop. If the roots have not occupied the same site more than three years, there is no need to replant the bed, although, where a quantity of green Mint is required, it is a good plan to make a small annual plantation in the spring. More suitable roots are then available for lifting for forcing early in the year. Cut off the current season's

3.—MISTLETOE FAILS TO GROW ON PEAR AND KILLS THE UPPER PART OF ITS HOST IN THE ATTEMPT.

growth close to the ground, clearing away all weeds, and lightly fork over the surface. If the soil is heavy in character, give a dressing of half-decayed leaves, vegetable refuse, and wood-ashes. This, with the aid of frost and weather influence, will gradually work down among the roots and assist the next season's growth, inducing the production of stout, succulent stems and larger leaves. In the case of light soil, half-decayed manure as a mulch will render equal service.

Asparagus.—Remove the whole of the tops to within 2 inches of the soil and clear away all weeds. If the soil is heavy in character, lightly fork it over during dry weather and apply a compost, 2 inches thick, of half-decayed horse-manure, leaves, vegetable refuse and wood-ashes. Such a mixture is much superior to the all too free use of heavy green manure, which is a common plan, to be followed with a coating of soil dug from the alleys between the beds. The latter especially is neither desirable nor necessary, as such a thick covering of unsuitable material is liable to make the roots too wet and cold during the winter months, especially if the soil has not been deeply trenched or drained. In the case of light, well-drained soil, naturally or otherwise, a thicker coating of half-decayed manure can be used with advantage.

Potatoes.—Those stored in heaps in sheds, cellars or buildings need occasional attention, especially in removing diseased tubers. Neglect of this may mean serious loss, especially this season, when so many plots had the haulm affected by disease, but which had not developed it seriously in the tubers. In such a case the disease in the tubers is not so evident at lifting-time, but shows later on. Even if there are no diseased tubers, the turning over of the heap will assist the preservation of the tubers so much better than when allowed to ferment in a heap, which all too often happens when lifting is done during showery weather.

Manuring Ground. — During frosty weather, when the ground is hard, all manure that is required should be wheeled into position. It is a mistake to make deep ruts in soil when it is wet, as it takes nearly the whole of the summer to recover.

Spring Cabbages.—Whenever the soil is sufficiently dry, these will derive considerable benefit from hoeing or otherwise stirring the soil about them. This year slugs have been troublesome, eating large holes in the leaves and thereby weakening the plants. A dusting of soot, or soot and lime mixed, around each will act as a deterrent, and will provide the Cabbages with some food in a mild form.

Parsley.—In some soils, especially in the Northern Counties, a supply of fresh green Parsley is difficult to maintain throughout the winter. It is wise to make up a frame on a spent hot-bed, for example, filling it to within 6 inches of the glass with a compost of light material, adding soot and wood-ashes freely. Lift plants from the spring sowing with a good ball of earth attached and transfer them to the frame 6 inches apart, thus giving abundance of air space. Keep the soil well stirred and remove the lights daily during fine weather, covering them with some protecting material during periods of frost. Frequently grubs attack the roots in some soils, causing the plants to die off suddenly. A thorough soaking with water to which is added petroleum at the rate of a wineglassful to three gallons of water will usually check the insect pests.

ERICA HYEMALIS, ONE OF THE MOST USEFUL OF THE WINTER FLOWERING GREENHOUSE HEATHS.

Cauliflowers.—Those not sufficiently advanced for cutting should be lifted and laid in cold frames or at the foot of a south wall, where they will continue to grow and mature their heads, which will be quite useful during the winter months.

Tomatoes.—Young plants should be kept quite close to the glass in a buoyant atmosphere to prevent their being drawn up weakly, or they will be of little service for the supply of winter and early spring fruit. White fly is at times troublesome. On the first sign of this pest carefully fumigate the plants. E. MOLYNEUX.

Swanmore Park, Bishop's Waltham, Hants.

THE GREENHOUSE.

GREENHOUSE HEATHS IN WINTER.

A VERY important matter in connection with the successful culture of greenhouse Heaths at this season of the year is to maintain a reasonable circulation of air, as, should the atmosphere become stagnant and overcharged with moisture, mildew is very apt to set in. Once it obtains a hold, it is likely to cause a good deal of trouble, though it may be combated by dusting the plants with sulphur and increasing the supply of air. Properly attended to, however, this last will keep mildew entirely at bay.

Watering. — The watering of Heaths at all seasons is a very important matter, but in winter even greater care than usual is necessary. The soil in which Heaths are potted (peat and sand) dries very quickly once it has passed what may be termed the medium stage, but more particularly in the case of plants that are stood near the hot-water pipes. In any case, when a plant is watered, it should be thoroughly done, otherwise the soil may be moist at the top, and the bottom exceedingly dry. When this happens, the delicate, hair-like fibres are sure to suffer, and the plant quickly falls into ill-health. The above remarks apply, of course, with equal force to spring, summer or winter flowering varieties; but these last being at the present time most in the limelight, I will confine my remarks to them.

Of winter Heaths, Erica hyemalis has long occupied a prominent position, and to-day it is as popular as ever. It is largely grown in a few market establishments, and from these widely distributed, either by means of autumn sales or orders later on. The specimens of this Heath that are to be met with in the florists' shops of London are models of successful culture, and such a standard could only be reached by those who make a speciality of such plants, with houses specially adapted for their accommodation. They are practically all grown in pots 5 inches to 6 inches in diameter. A well-flowered specimen, such as is shown in the accompanying illustration, can be purchased at a very cheap rate.

The early history of E. hyemalis is obscure, but it is commonly regarded as of garden origin. At all events, it has been an exceedingly popular Heath for many years. The flowers in colour are rose and white. About thirty years ago a pure white form (alba) came prominently forward, and it is now largely grown. There is also a variety, superba, whose blossoms are of a richer colour than those of the type.

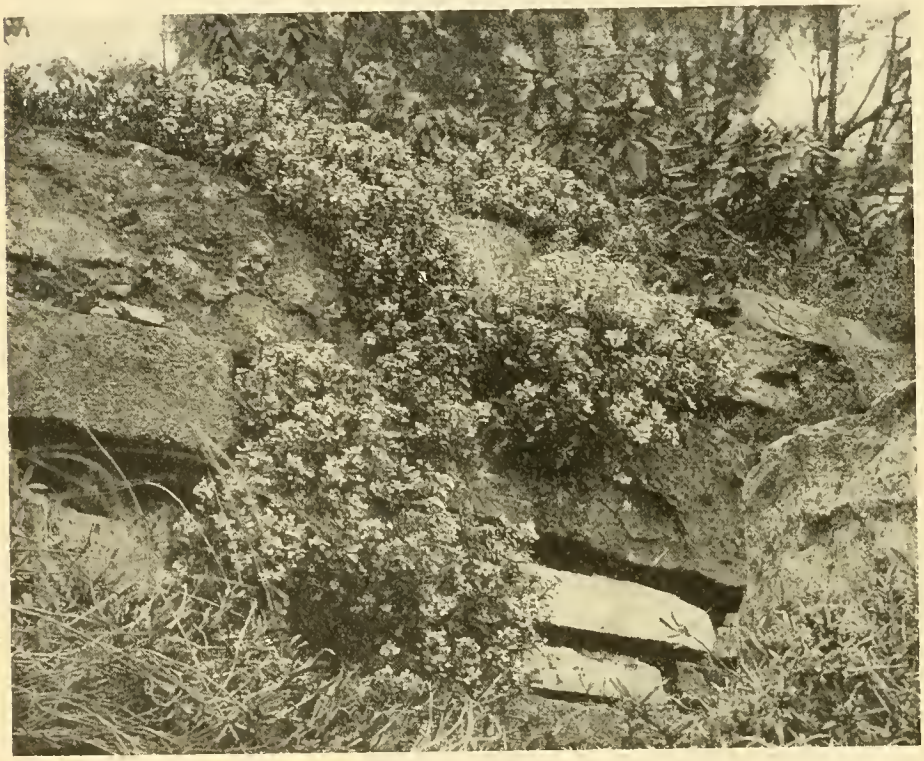
E. gracilis, now in flower, is, as a rule, at its best in the autumn and first half of winter. It is of a dense, twiggy growth, and bears its small rosy

purple blossoms in great profusion. There are some well-marked varieties of this, namely, rosea, in which the purple shade is to a great extent eliminated, the flowers being an almost clear rose tint; nivalis, under which name is included the best white, though in tone of colour there is a certain amount of variation; and vernalis, which does not bloom till the New Year, and is altogether of stiffer and more bunched growth than the others. E. gracilis readily lends itself to growing in those miniature pots which are now so much in vogue.

Another Heath whose blossoms are borne in the depth of winter is E. melanthera, which in its cultural requirements is one of the most accommodating of all Heaths. The flowers of this, which are borne in the greatest profusion, are mauve, with dark-coloured anthers. Though it can be flowered in 5-inch pots, larger examples are very useful for decorative purposes. If potted on so as to obtain good-sized bushes, this Heath does not need to be cut back as hard after flowering as most of them do. A pleasing way of growing E. melanthera is to take the young plant in hand early and tie it to an upright stick. The leading shoot must be kept secured in position, when, with a little assistance in the way of pinching, the plant will assume the shape of a narrow pyramid, so different from its usual habit.

Other pretty winter-flowering Heaths are E. caffra, a dwarf, bushy-growing little plant with white flowers; and E. colorans, of upright growth, whose long-tubed, white flowers before expansion have a reddish tinge on the outside. Others that come in as succession to those above named, and the earliest of which may be had in bloom before winter has left us, are candidissima, white; hybrida, bright red; persoluta alba, white; p. rubra, reddish; spenceriana, purplish lilac; and wilmoreana, rose and pink. The propagation of these Heaths and their culture during the earlier stages are very exacting, unless one has everything to hand for the purpose. Such being the case, it is, as a rule, more satisfactory to purchase a few examples just as the buds are developed.

After Flowering.—If, after the flowers are over, there is a desire to keep them for another season, the plants should be cut back hard. Then they will soon commence to push out new shoots, and as soon as these are about half an inch in length the plants may be repotted, using a pot a size larger than that in which they have been in before. Sandy peat forms the most suitable compost. It must be rammed down very firmly. Effective drainage, too, of course, is most essential. Kept in the greenhouse till growth is completed, these Heaths during the latter part of the summer may be stood out of doors in order to ripen the wood and ensure the formation of flower-buds. H. P.



THE GIBRALTAR CANDYTUFT (IBERIS GIBRALTARICA) FLOWERING IN DECEMBER.

ROCK AND WATER GARDEN.

THE DESIGNING, CONSTRUCTION AND PLANTING OF ROCK GARDENS.

(*Concluded from page* 634.)

Soils and Planting.—The question of soil can be dismissed very briefly, as it is rather a matter of the individual liking of the plant than a question of construction. For perhaps 50 per cent. or 60 per cent. of the plants used, fibrous loam, a little leaf-soil or peat (or both) and some good sharp sand are quite satisfactory. For the remainder it is merely a matter of varying the quantity of one or the other of the above constituents, and, in some cases, adding a proportion of limestone chippings. Any definite formula, except for particular subjects, would be misleading. In the matter of planting, more can be said with advantage. An intimate knowledge of the plants used is the only sure guide. It is in the misplacing of various plants used that so many rock gardens fail. There are plants for sunny aspects, and those that prefer shade, some that revel in moisture, others that seem perfectly happy on the driest ledge. Nor is the appearance of the plant a safe guide to its habit. Take, for instance, Ramondia pyrenaica. To look at it anyone ignorant of its preferences would conclude that it would thrive almost anywhere, and for choice prefer an open sunny place with great depth of soil. As a matter of fact, some of the best plants I have seen were growing in vertical interstices between the cool north sides of some massive boulders.

So many books giving the experience of others are published now that there is not much excuse for many of the glaring errors that are made in this respect. The *grouping* of plants is a matter that cannot be learnt from books, however, but it is to this that many of the individual charms of the rock garden are due. Drifts and cascades of flower and foliage, in appearance tumbling from ledge to ledge, can be skilfully arranged, without such arrangements being obvious. A sunny slope planted with Viola gracilis in one large mass is very attractive, but if smaller and gradually diminishing plantings are made on the lower ledges to give the appearance of having seeded itself in all directions, the effect is much enhanced; and then, if the planting in its immediate vicinity is of a grey-leaved, yellow-flowered plant like an Alyssum, the combination becomes perfect. There are hundreds of studies that can be effected in this way without the introduction of one note of artificiality. Of course, to the man who revels in the microscopic detail of a plant because it is new or rare rather than beautiful, such schemes will not appeal. He will consider that a plant loses its individuality and its merit as an item in his collection if it shares the effect it produces with another plant. It is not for the collector I write, however. I have, indeed, little sympathy with the man who collects plants in the same spirit as the philatelist collects postage stamps.

Colchester. GEORGE DILLISTONE.

THE GIBRALTAR CANDYTUFT.

(IBERIS GIBRALTARICA.)

CONSTANT reference has been made in these pages to autumn-flowering plants for the rock garden, but in Iberis gibraltarica we have a subject worthy of special mention, since it flowers in the dead of winter. The plants overhanging rocks shown in the accompanying illustration commenced to flower in the early days of December. They were on December 18 in full bloom, and will continue to flower for some months to come. Each year this subject may be depended upon to flower at Christmas. There are two varieties, pink and white, and so freely are the heads of flowers borne that when seen from a distance the white form resembles little drifts of snow in the landscape. It is a suitable subject for a dry wall, providing it is given a fairly good rooting medium, when it will thrive in association with such subjects as Cotton Lavender, and Cerastium tomentosum. The sunny side of the rock garden suits it best, and it should be planted in a favoured niche, so that it may overhang the rockwork. It is both evergreen and hardy, and when once established will grow for years if not disturbed. Propagation is effected by cuttings, and it also produces seed.

TREES AND SHRUBS.

TREES AND SHRUBS WITH ORNAMENTAL BARK.

MUCH may be done, particularly when the pleasure grounds and shrubbery borders are fairly extensive, to make the whole place more attractive and interesting in winter by giving a little attention at planting-time to trees and shrubs of a deciduous nature which have brightly-coloured bark. There is additional justification for planting most of those named later in this article, as most, if not all, of them are attractive in summer, either on account of their graceful habit—the Silver Birch (Betula alba), for instance—or the highly-coloured foliage, a good instance of which we have in Cornus alba Spæthii.

A considerable list could be given of the numerous deciduous trees and shrubs with attractive trunks, branches or twigs. The intention here, however, is to limit the list to a comparatively few of the best which stand out prominently from the remainder and are particularly adapted for the purpose in view. These will be found valuable alike for both small and large gardens, for they may be planted as single specimens, small groups, or massed, where space permits, in prominent situations. The choice of suitable positions for planting the respective subjects has much to do with the ultimate success or failure of the project, more particularly in public parks and large private pleasure grounds. For instance, to show to the best advantage the undoubted beauty and attractive character of the White-stemmed Bramble (Rubus biflorus), it is desirable to have evergreens in the background, though not necessarily quite close to the Brambles. Again, masses of the Cardinal Willow are very nice in the shrubbery border, but they are far more attractive and thrive better by the water-side, even if it is only a ditch with water at some periods of the year, though, of course, if no water is available, this is impossible.

In numerous instances the best-coloured bark is that on the young shoots of the recent summer's growth. Such being the case, the aim of the cultivator should be, by pruning and other means, to induce the production of vigorous young growths. For instance, the Salix or Willows, when grown particularly for the winter beauty of the stems, should have the young shoots made the previous summer cut hard back in spring to within one or two eyes of the old wood, which in practice usually means down to near the ground. The treatment of the Rubus or Brambles is rather different. In this case the pruning is best done in autumn as soon as the leaves fall. It consists in cutting out and carefully removing the old growths without damaging the young stems, the beautiful powder or bloom on which is easily disfigured.

The recognised methods of cultivation are suitable for deciduous trees and shrubs grown for their attractive bark in winter. In some instances, however, it is quite worth while supplementing the usual tillage operations with a little extra attention. Much thicker and longer growths, for instance, are made by the Brambles, Willows and Cornus when the ground is deeply dug and freely manured previous to planting and an occasional mulch of old, well-decayed manure applied. There is another side to the question, and that is, with few exceptions, among the shrubs the best results are obtained with young plants, so that after a few years of hard pruning the Willows and Brambles should be grubbed out and replaced with young stock.

SILVER BIRCHES IN THE WOODLAND, SHOWING THEIR WINTER BEAUTY WITH A BACKGROUND OF CONIFERS.

Among trees, the most noteworthy with conspicuously-coloured stems or trunks are Acer pennsylvanicum (syn. striatum) and the variety erythrocladum; the Chinese Maple, Acer Davidii; the Birches, the white bark of which is fairly well known, the most noteworthy varieties being Betula alba, B. Ermannii and B. ulmifolia; B. papyrifera, with brown bark; and B. nigra, which has black peeling bark. Fraxinus Excelsior aurea receives its common name of the Golden-stemmed Ash from the colour of the bark.

It is interesting to note that three genera—Cornus, Rubus and Salix—are especially rich in shrubs with attractive stems in winter. In the Cornus or Dogwood family we have red, yellow and green twigged shrubs. C. alba and the varieties Spæthii and sibirica have red bark, C. sanguinea viridissima green bark, and C. stolonifera flaviramea yellow bark. The stems of some of the Bramble family are the most conspicuous among all shrubs, several of them looking as if the whitewash brush had been liberally used on the stems. This conspicuous character has led to Rubus biflorus being popularly termed the Whitewash Bramble. Almost or quite as good as this species—some growers say they surpass it—are the newer Chinese species R. giraldianus, R. Veitchii, R. thibetanus, R. lasiostylus and the variety R. biflorus quinqueflorus. The showiest of the Willows are Salix alba var. cardinalis—the Cardinal Willow, with red bark; the Golden-stemmed Willow, S. alba var. vitellina; and S. daphnoides, with a conspicuous bluish white bloom or powder on the stems. There are several other Willows with coloured stems which might be used if space permits. Berberis virescens has red stems, while B. dictyophylla is also attractive in winter. The green stems of some of the Cytisuses, Spartiums and Genistas may also receive consideration. A. O.

ROSE GARDEN.

IN A HAMPSHIRE GARDEN.

SOME OF THE NEWER DECORATIVE ROSES.

(*Continued from page* 632.)

Mrs. Frederick W. Vanderbilt (S. McGredy and Son, 1913).—My choice of all the Lyons-raised seedlings of this, or, for that matter, of any other raisers. The growth is further away from the type, and is vigorous, free and branching, and not stiff. The flower is very fragrant, and although the plant is not mildew-proof, it is not particularly or badly addicted to mildew. The colour I have left till the last, because it is very difficult to accurately describe. One turns to the National Rose Society's official catalogue—"coppery yellow." That would seem to point to a predominance of yellow. The raiser has, however, a different idea. He calls it "deep orange red, shaded bronze apricot red," pointing to a predominance of red. To attempt to describe the colours in two words is futile; it simply cannot be done. I think all the various colours named are there, but not in the order of

their relative importance. For example, a yellowish copper is nearer the mark than a coppery yellow. In the same way, if the raiser had said a reddish orange, shaded bronze red apricot, I am inclined to think he would have been much nearer the actual colour. Taking out the dominant colours, we now get copper, orange and apricot. They are all there, and at respective stages each is the principal colour in the flower—copper in the bud, orange in the half-open flower, and apricot in the fully-expanded bloom, with all the half shades in between. I do not think there is any red in the flower except such as forms a constituent of the copper. The advent of Pernet-Ducher's strain has made a vast difference to the colour of our garden Roses; but it has, unfortunately, introduced several elements which are by no means to be desired. An inexplicable dying back of seemingly healthy wood, a bad habit of growth, and a marked hereditary tendency to black spot are on the other side of the picture. These will all have to be bred out before we can look for a good bedding Rose in this section, and the Rose under notice has progressed as far in that direction as any that I have come across.

Mrs. George Preston (Alex. Dickson and Sons, 1910).—One of the new Roses that by reason of its colour perhaps has been somewhat overlooked. I cannot account for it in any other way. I remember once hearing one of the oldest and most respected of our Rose nurserymen saying, "We don't want any more pink Roses. I won't look at a pink Rose." I cannot understand that point of view. To be logical, it must mean either that pink is a bad colour or that pink Roses have reached perfection and cannot therefore be improved upon. Now, neither of these propositions is true. Perhaps what was meant was that pink as a colour was out of fashion. Be all that as it may, I would welcome any Rose if it was better than a Rose already in commerce (which it resembled), be the colour what it might. To get back to Mrs. George Preston, this is a warm silvery pink. The flowers are of good size and substance, freely produced, sweetly scented and particularly good in autumn.

Mrs. Gordon Sloane (Alex. Dickson and Sons, 1912).—I think this is going to be a good decorative Rose. I have only one plant of it, and therefore one has to speak a little charingly. The colour is distinct and good, coppery pink and flesh, especially in the early flowers. It is a good grower, of that free-branching habit that is so essential to a free-flowering Rose; strongly perfumed.

Mrs. Joseph H. Welch (S. McGredy and Son, 1911).—Those who only know this Rose from the specimens seen in the exhibition boxes at shows can have but very little idea of it. The bud or half-open flower—it is very often nothing more than the former that is exhibited—is very fine, but a young flower "fully" open is much more beautiful. As a matter of fact, it is almost a single, and a few young flowers in this stage are strikingly beautiful as cut blooms. It is not an ideal bedding Rose, owing to its habit of growth, which is tall and whippy; but it is a most interesting Rose to grow, and is sweetly scented.

Southampton. HERBERT E. MOLYNEUX.

(*To be continued.*)

NEW AND RARE PLANTS.

FIRST-CLASS CERTIFICATE.

Cattleya percivaliana alba Lady Holford.—An exquisitely beautiful flower of purest white, petals slightly waved at the margin. The heavily-crested lip displayed a centre of richest orange, delicately feathered with white, the richer colouring extending well into the tube. From Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt.

THE TANGIERIAN IRIS. FLOWERS BLUE WITH A BRIGHT GOLDEN BLOTCH ON THE FALLS.

AWARDS OF MERIT.

Chrysanthemum Bertha Lachaux.—A very useful and beautiful late-flowering decorative variety of deep pink colouring. The variety is of the decorative class, the florets spreading or slightly reflexing.

Carnation Philadelphia.—This is one of the cerise pink shades, somewhat deeper than Lawson, and of a free, easily-expanding character. The flowers are moderately large and sweetly scented. These were exhibited by Messrs. W. Wells, Limited Merstham.

Cypripedium nitens leeanum var. smaragdinum (C. leeanum giganteum × C. Sallieri hyeanum).—Sepals, petals and lip uniform greenish yellow; dorsal sepal of greener tint, obscurely mottled and heavily tipped with white. From F. T. Hanbury, Esq., East Grinstead.

Odontoglossum Cleopatra Rosefield Variety.—Sepals and petals rich cinnamon brown, faintly bordered yellow and tipped with white. Lip crimson, with yellow crest, reticulated and heavily tipped with white. From de Barri Crawshay, Esq., Sevenoaks.

Odontioda Langowoyi (O. Uro-Skinneri × Miltonia schröderiana).—Sepals and petals acutely pointed, crimson, green tipped. Lip ruby red, broadly tipped with white. From Messrs. Charlesworth and Co., Hayward's Heath.

Cypripedium bourtonense (C. insigne Harefield Hall × C. Blanche Moore).—A flower of giant proportions. Sepals and petals greenish brown, with pouch of the same colour. Dorsal sepal 4 inches across, greenish, copiously blotched brown and heavily bordered with white. From G. F. Moore, Esq., Bourton-on-the-Water.

The foregoing were shown at the committee meeting of the Royal Horticultural Society on December 16.

THE TANGIERIAN IRIS.

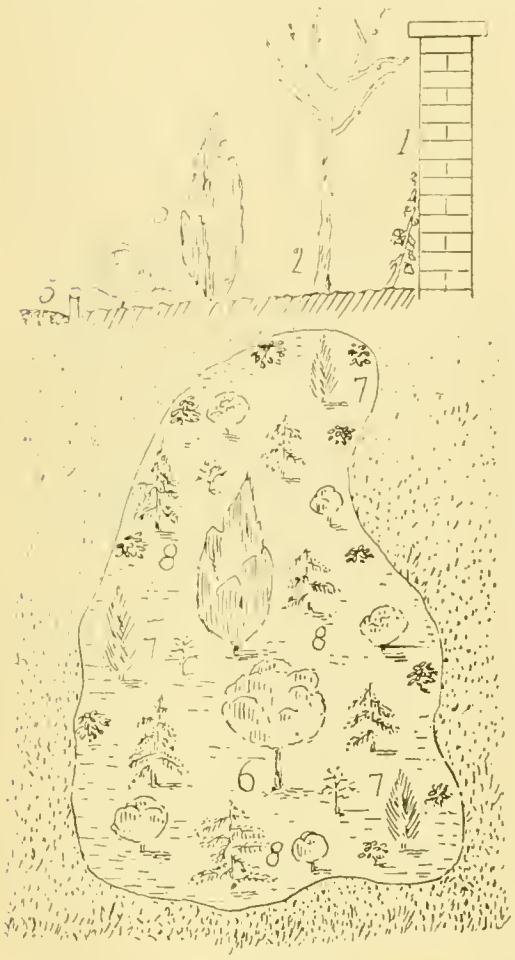
(IRIS TINGITANA.)

THIS lovely Iris was introduced from Tangier as long ago as 1872. When successfully grown, it is looked upon as one of the most charming species of the genus. It shows a marked liking for a warm, sunny situation, which is not surprising when we consider its habitat. In favoured counties like Devon and Cornwall it does well, especially if given a sandy, gritty soil to which lime rubble has been added. During the winter it needs protection from heavy rains. Some exceptionally fine plants in full flower were shown recently before the Royal Horticultural Society by Messrs. Barr and Sons. The plants created great interest and admiration by reason of their healthy growth and lovely flowers. These plants had been grown under glass from strong, selected bulbs, which were potted up in early August and given cold-frame treatment. It is worth noting that this Iris makes a fine pot plant for the greenhouse, and may be lightly forced like the Spanish Iris. The flowers vary in the upright standards from light to dark blue, the falls usually of a paler shade. Each has a bright golden blotch. Its time for outdoor flowering is May and June, but when grown as a greenhouse plant it may readily be had in bloom at this season.

GARDENING FOR BEGINNERS.

HINTS ON PLANTING NEW SHRUBBERIES.

WHETHER the proposed new shrubberies are to be large or small, every effort should be made to prepare the soil well, to put in the most suitable kinds of shrubs, and to arrange them in the most attractive way. Even a very small shrubbery makes a dwelling-house look more substantial, inviting and comfortable. Furthermore, shrubs afford the cultivator a great amount of interest. He derives pleasure from watching their growth, and in association with them he can, all the more effectively, arrange other subjects in the garden. Some shrubs look best when grown in beds on the lawn, others are more suitable for growing in side borders near paths and walls, while many are the most effective when treated as specimens.

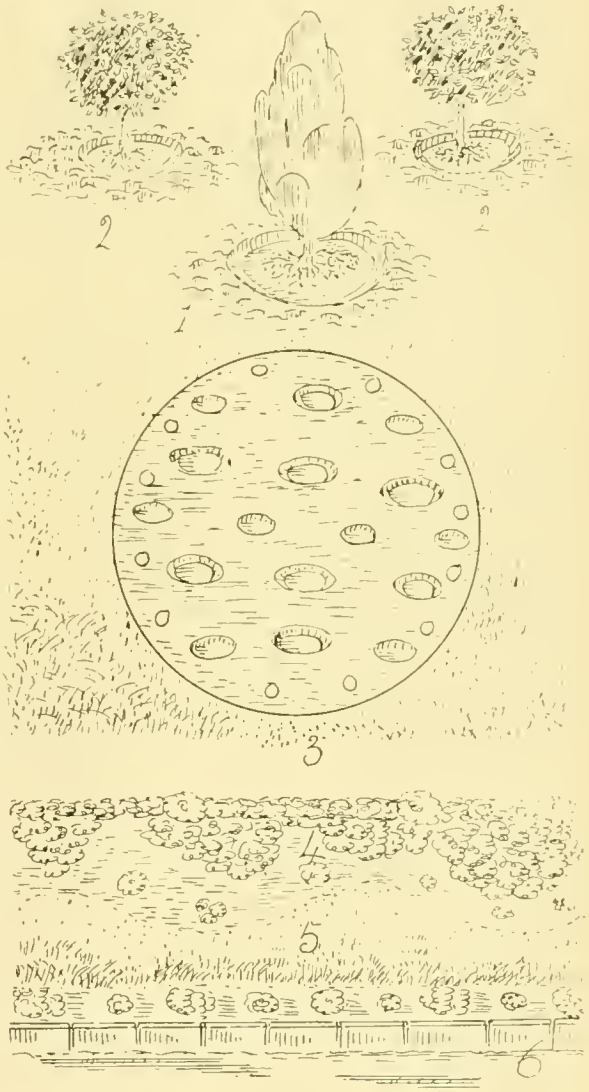


A.—PLANTING CLIMBERS AGAINST A WALL AND SPECIMEN TREES IN THE OPEN.

How to Prepare the Soil.—Very fine shrubs can be grown in quite poor soil if it is well treated. So many cultivators are under the impression that it is useless for them to attempt to form a shrubbery because the rooting medium is indifferent as regards quality. Of course, really rich soil helps matters wonderfully; but there is a great deal that is of poor quality, and those persons who have to grow shrubs in such should make it as suitable as possible before putting in the plants. Trenching is the first consideration. Whether the soil be rich, gravelly, sandy, peaty or clayey, it must be trenched to a depth of at least 20 inches. Thirty inches would be better, especially in cases where the larger kinds of shrubs are to be grown. In carrying out the work, the cultivator must keep the surface soil on the top, simply turning it over and breaking it up. The subsoil must be kept below and well loosened with the aid of the garden fork. If there is a grass turf to deal with, the latter must be buried about nine inches below the surface and chopped into squares. In a short time it will commence to decay and supply nourishing food for the shrubs for a considerable time. In every case the best soil must be kept near the surface, but where poor soils obtain, the most nourishing foods should be placed on the surface and just below it, as, owing to the porosity of the soil, the rains will soon wash down all the best portion below the reach of the roots.

Planting the Shrubs.—In the case of a new shrubbery, it will be found necessary to fill up space with temporary shrubs, those intended to remain permanently being planted first. In Fig. A two forms of shrubberies are shown, one near a wall and garden path, and the other an irregularly-shaped one on a lawn. In the first named, herbaceous and other flower roots may be used to fill in space, so that all the shrubs put in will be permanent subjects. No. 1 shows a climber on the wall; No. 2, a standard deciduous tree; No. 3, a nice specimen conifer; No. 4, a dwarf shrub; and No. 5, the edging and portion of path. In the large lawn bed, Nos. 6, 7 and 8 denote the larger permanent shrubs, all others being planted to fill up the vacant space. Some of them will remain in their positions for probably a dozen years before it will be found necessary to remove them to allow sufficient space for the others to grow in. Fig. B shows, at Nos. 1, 2, 2, the way to group shrubs on a lawn. There may be as many as seven or even twelve in a group, but in each case they should be so disposed that every specimen can be seen from whichever point it is viewed. After covering the roots firmly with soil, leave a space of bare soil around them, as grass must not be allowed to grow right up to the stems. A large, round bed, 3, on a lawn is not difficult to plant. The large holes represent positions for the big shrubs, and the others for the small specimens. At planting-time there must be some formality, but it will be less apparent in a few years' time. The remaining sketch represents a boundary fence and an arrangement of shrubs; No. 4, a narrow strip of lawn; No. 5, a narrow border in which some small specimens are planted; and No. 6, the path and tile-edging. In thousands of small gardens much privacy may be obtained if the shrubs are so arranged, and there would be plenty of space for flowers. A few deciduous kinds of shrubs judiciously mixed with the evergreen sorts will add to the general appearance and give additional interest to those of a non-flowering character.

G. G.



B.—SHOWING HOW TO GROUP SHRUBS FOR EFFECT.

GARDENING OF THE WEEK.

FOR SOUTHERN GARDENS.

The Pleasure Grounds.

Paths.—Any paths that may have been cut up through the heavy traffic of alterations should, if possible, be put right at once. It may mean that the whole surface of the path will need breaking up and regravelling. In such a case the old gravel should be carefully levelled, and, if a fairly wide path, sufficient camber should be allowed to take the water away nicely, a flat path soon wearing into holes through the water standing on it. If the surface of the old gravel is left moderately rough and the fresh gravel is carefully levelled and well rolled, the whole will become thoroughly consolidated and not be likely to pick up.

The Flower Garden.

Double Arabis.—Considerable trouble is being experienced in these gardens through the birds pulling up or breaking off the young plants in the flower-beds. Whether this is pure mischief, or whether they do it to more easily get at the small black slugs that secrete themselves on the under part of the foliage, I do not know; but anyone experiencing the same trouble would be well advised to place black cotton over the beds some 8 inches or 10 inches above the plants.

Nicotiana Colossea variegata.—Cuttings of this beautiful subtropical bedding plant should be inserted in a brisk bottom-heat as they become fit. Side growths, I find, root much more quickly than the tops of old plants, and if rooted early in the year and potted on as they require it, they should make quite nice plants by planting-out-time.

Dracæna indivisa is a most useful subject in the flower garden, and young plants raised from seed during the past spring should make quite nice-sized plants for dotting purposes if kept nicely moving through the winter and spring. Potting on should be done at any time as they require it, 6-inch pots being about the right size for plants raised this year, and should carry them till they are required for planting out.

Acacia lophantha and Eucalyptus raised during the summer should also be repotted as they become fit, as if good, well-furnished plants are required, the pots must not be allowed to get too full of roots before the plants are potted on. Very little heat is required for these subjects; but if the plants are small, it might be wise to keep them nicely on the move during the winter.

Plants Under Glass.

Pot Roses.—Plants required for fairly early blooming should be removed under cover at once, where they should be allowed to get fairly dry before the work of pruning is commenced. Unfortunately, all Roses have continued growing, or at least held most of their foliage till now. What effect it will have on their flowering remains to be seen, but they will not get much rest this season. Plants permanently planted in the houses, whether for covering the roof or in beds, may be pruned at once. They should then be given a thorough cleansing, also the house, after which a little of the surface soil should be removed, substituting this with a little fresh soil to which has been added some half-spent manure and bone-meal. The borders should also be thoroughly well watered, the subsequent treatment accorded the plants varying with the date they are wanted in bloom or with the varieties.

Pruning.—The Teas and Hybrid Teas do not require such severe pruning as the Hybrid Perpetuals, though it is doubtful if there are many of these latter grown now in private places, except perhaps Frau Karl Druschki, Mrs. J. Laing, Captain Hayward and one or two others.

Imantophyllum.—This most useful plant may be had in flower over quite a long season if part of the stock is introduced into heat and the remainder allowed to come along gently in quite a cool house. Plenty of manure-water is necessary when the plants are throwing up their flower-spikes, and this makes quite a lot of difference not only to the size and colour of the flower, but to the foliage as well.

Amaryllis.—Many of the early-flowered bulbs last year are now pushing their flower-spikes, and directly this is noticed they must be placed in a light position in one of the houses. Should they be wanted quickly, they will stand a fair amount of heat; but care must be taken with the watering, or the foliage is apt to overgrow the flower-spike.

The Vegetable Garden.

Ridging the Soil, in addition to trenching, is a decided advantage where the soil is of a heavy clayey nature. Such treatment allows as much of the soil as possible to become thoroughly disintegrated with the action of frost and air, so that when the season of sowing arrives it is drier and breaks down nice and fine, and so provides a good seed-bed. This latter is one of the essentials towards the successful cultivation of all classes of vegetables, and in soils of varying character different means must be employed to attain the desired end.

Fruits Under Glass.

Tomatoes.—These call for careful treatment at this season, and where the plants are ripening their fruit, too much moisture must not be afforded at the root, nor must the atmosphere of the house contain too much moisture, or heavy foliage and little fruit will be the result. If the trusses are fairly well set, the points of the shoots may be pinched out and thus induce the fruit to swell quickly.

Fruit-Houses generally that have been started some little time must be kept steadily moving, making no attempt to hurry them until the days begin to lengthen some little time hence, at the same time maintaining the proper amount of heat and humidity in the houses to ensure the growth coming away strongly.

Strawberries.—Good batches of these may now be placed indoors. The first batch will probably have been in a week or two, and if in one of the fruit-houses that have been started, the gentle rising of the temperature should suit them well. If the successional batches are put in as other houses are shut up, they will naturally produce a nice succession of fruit. Sufficient water should be given at this season to keep them from getting really dry, increasing it accordingly as the plants make growth.

Hardy Fruits.

Raspberry Belle de Fontenay.—This autumn-fruiting Raspberry has this season been more prolific than ever I have known it, and though the flavour is not so good as at midsummer, it is, nevertheless, very useful during September, October and November, and even in December we have gathered one or two good dishes of fruit. It is an excellent grower, and where Raspberries are in much demand, a row or two of this variety is well worth growing.

THOMAS STEVENSON.
(Head-gardener to E. Mocatta, Esq.)
Woburn Place Gardens, Addlestone, Surrey.

FOR NORTHERN GARDENS.

The Flower Garden.

Digging and Trenching.—This work should be pushed forward in open weather, but be left severely alone during frost.

Calceolarias.—While these and other half-hardy plants in frames should be well exposed in open, mild weather, they must be sufficiently protected from frost. Should severe frost set in, it will be advisable to supplement the mats with a covering of straw, and some loose litter should also be placed round the box of the frame.

Protecting Early Bulbs.—Where Snowdrops and Scillas are grown in square or oblong beds for cutting purposes, a one or two light frame may in turn be placed over Snowdrops, Scillas or Chionodoxas, Dog's-tooth Violets and Daffodils, thereby hastening the flowering period by a fortnight or more.

The Rose Garden.

Late Operations.—Where any rearrangement of beds or their occupants has been contemplated and the work cannot be got through for some little time, it will be wise to lift the plants without delay and lay them in by the heels in a vacant piece of ground, carefully named, deferring the planting of them in their permanent places till February.

Rose Hebe's Lip.—This is one of the most beautiful varieties of old garden Roses, and not very well known, I think. It is a white Rose with a tinge of bright pink on the tips of the petals, which much enhances its beauty, especially in the half-opened buds. I purchased it from Messrs. Dobbie and Co. before they left Rothesay.

The Pleasure Grounds.

Trees and Snow.—When a heavy snowfall occurs, valuable ornamental trees are frequently damaged through the weight of accumulated snow breaking the branches. If a heavy fall of snow occurs, therefore, a rake or long pole should be employed to dislodge the snow from spreading ornamental trees such as Piceas, Pinuses and Cedars.

Plants Under Glass.

Callicarpa purpurea.—This attractive purple-berried stove shrub is now almost over for the season, and may be cut down to within about six inches of the ground, either to be grown on again or to furnish cuttings for young stock.

The Newer Winter Begonias.—Begonia Gloire de Lorraine is as yet indispensable, but some of the newer and larger-flowered varieties should also be grown by those who have accommodation. Such varieties as Miss Clibran, Optima, Progress and Bank Hall Beauty can be recommended without hesitation. I would also put in a plea for old B. manicata.

Cinerarias.—These have made much growth on account of the mild autumn. Vaporise occasionally for green fly, and on the first appearance of the leaf miner, spray with Quassia Chips Extract.

Forcing Camellias.—These old-fashioned plants should not be subjected to hard forcing; but if a few plants are introduced to an intermediate temperature now, they will prove very useful for the conservatory by the beginning of February. Never allow them to suffer for the want of water, or bud-dropping will be the result.

Bulbs.—With the lengthening days these will respond more readily to a little forcing, and they should be brought forward in considerable batches, as it is in the early part of the year that they are most prized. Daffodils will not stand such hard forcing as Hyacinths and Tulips.

Fruits Under Glass.

Cordon Trees.—For Apples or Pears, the cordon system has much to recommend it, its two chief advantages being that one is able to obtain fruit at the earliest possible moment, while by it one can secure the maximum amount of fruit in a given space.

Potting.—No time should be lost in procuring the trees, and if they are to be potted, the operation should be performed as soon as the trees come to hand. Generally speaking, pots 12 inches in diameter will be sufficient at first. Drain the pots carefully and use a compost of about five parts of sound, fibrous loam to one part of rotten cow-manure. Ram firmly with the potting-stick and leave quite 2 inches for water. Water through a rose and plunge the plants outside among some light material, standing the pots on a slate to prevent the ingress of worms.

The Vegetable Garden.

Jerusalem Artichokes.—This crop requiring a long period of growth, it cannot be planted too early in the year, provided that the ground is in good condition. Keeping this in view, the quarter, if not already trenched, should be done so at once if the weather permits. A rather light soil suits this crop best, and it should not be too highly enriched, or stems instead of tubers will be the result.

Home-Made Pea Guards.—An effective Pea guard can be made by tacking 18-inch wire-netting (half-inch mesh) on to lengths of wood 2 inches square. A man at each end then lifts the guard on to the line of Peas, and draws the lengths of wood slightly closer till an arch is formed over the line of Peas.

Pea Stakes.—No time should be lost in preparing a sufficient quantity of these. Beech, Elm and Hazel all make first-rate Pea stakes. Those who cannot get natural ones must fall back on wire-netting or wire hurdles.

CHARLES COMFORT.
Broomfield Gardens, Davidson's Mains, Midlothian.

GARDENING ACROSTICS.

AS announced in our issue for November 22, we are publishing eight gardening acrostics, to be divided into two sets of four each. Each light correctly guessed will count one, and also each "first" and each "last." Thus, supposing the whole is China (firsts), Aster (lasts), the full marks will be seven—one for China, one for Aster, and one for each of the five lights C . . . A, H . . . S, I . . . T, N . . . E and A . . . R. Hence, suppose a competitor got everything right but the light I . . . T, he would count six, and it would not matter if he attempted to solve that particular light or not.

Those entering for the acrostics must observe the rules published on page 607 of the issue of December 6.

DOUBLE ACROSTIC No. 4.

A very big book, written in a very big way almost exactly 200 years ago. The last of its type.

Firsts—the type.

Lasts—the author's surname.

1. I once gave the Dutch a horrid fright.
2. A famous book, written for Old England's glory.
3. A great Russian botanist of modern times.
4. A gardener once saw the capability of the spot and made a lake and his fortune. Where was this at?
5. The Strawberry Tree.
6. The surname of the man who gave us "the most complete book of Gardening ever published." A regular gardening octopus in its wide embrace.

Solutions of the above must be sent so as to reach the Editor at 20, Tavistock Street, Covent Garden, London, W.C., not later than the first post on Saturday, January 3, 1914. Mark the envelope "Acrostic" in the top left-hand corner.

SOLUTION AND NOTES OF ACROSTIC No. 2.

NECTARINE—RASPBERRY.

*	1.	N	UPHA	R
†	2.	E	RIC	A
‡	3.	C	ARELES	S
§	4.	T	ULI	P
‖	5.	A	RA	B
¶	6.	R	IC	E
**	7.	I	NFERIO	R
††	8.	N	ECTA	R
‡‡	9.	E	BON	Y

Firsts—If a Peach stone be sown, it is quite uncertain whether the resulting plant will be a Peach (downy) or a Nectarine (smooth), and *vice versa*. *Lasts*—Botanically, a Raspberry is such a fruit. The Red Antwerp and the Yellow Antwerp were known considerably more than a hundred years ago. * Nuphar is thus described in "Nicholson's Dictionary of Gardening": "The yellow Water Lily of our streams and pools is a Nuphar." † Ericas come from South Africa. They were a very popular genus for greenhouse cultivation about the sixties and seventies. ‡ Gooseberries are called "berries" among Gooseberry show people. Careless, raised near Birmingham, is an old variety of excellent flavour. In the "Gooseberry Grower's Register" for 1889 it occupied the premier position as the heaviest white berry. § The Tulip is thus described in "Le Floriste François" in 1654, page 200. This is an exceedingly rare book on Tulips. It is the first floral monograph ever published. ‖ An interesting account of the Arab influence on the coasts of the Mediterranean is to be found in "Wanderings of Plants and Animals," by Heyn and Stallybrass, pages 37 and 38 and 336 and 337. ¶ Rice was the staple food of the poor Indian for generations before it was introduced to America.—"Wanderings of Plants and Animals," page 383. ** See any book on botany for description of terms. †† In Fritillaria imperialis (Crown Imperial) the nectaries are in shallow excavations on the inner side of the perianth leaves near their base. Each one exudes a large drop of nectar, which is seen on looking down into the flower. ‡‡ Diospyros ebenum produces the best Ebony. See such a book as "McCulloch's Commercial Dictionary," under "Ebony."

*** *Owing to the Christmas holiday, this issue had to go to press before the last day for sending in solutions of Acrostic No. 2. The results of this will therefore appear in our issue for January 3, 1914, together with the results of No. 3.*

THE NAMING OF TULIP BREAKS.

MAY I thank Messrs. Leak, Krelage and Needham for their most interesting letters? The naming of breaks has become an important question to both the sellers and the purchasers of Tulips. The striped flowers that we used to root up and consign to the rubbish heap are going to be marked, saved and "grown on." Already I hear of one of the largest wholesale firms of Holland casting about to secure stocks so as to be in a position to serve their American customers. It is a straw which shows the direction of the wind. Only let the fashion grow, so that these broken Tulips command a ready sale, and we shall all of us be saving all we can. This is when the difficulty will begin. Clara Butt may break in any or all of the many gardens in which it is grown. As the custom is at present, there is nothing to prevent Mr. Leak giving the break one name, Mr. Krelage another, myself a third, and so on *ad infinitum*. When only an odd Cottage or Darwin break was picked out here and there, it did not very much matter how the names were given; but let the numbers appreciably increase and these broken varieties become fashionable, then some hard-and-fast system becomes imperative, or their nomenclature will soon be in a hopeless state of confusion.

Mr. Needham, in THE GARDEN of December 6, has told us how the Tulip men of the past and present avoid this. The underlying principle of their nomenclature is "Once a Sir Joseph Paxton, always a Sir Joseph Paxton." The rectification or the becoming striped is only a stage in a bulb's life-history, and the change does not make a new variety any more than the growth of whiskers, beard and moustache on the smooth face of John Smith makes the aforesaid John Smith into Peter Jones. They speak of a self-coloured Sir Joseph Paxton as Sir Joseph Paxton breeder, and when it is striped, as Sir Joseph Paxton rectified, or, more usually, they give the type of rectification into which it has broken—if with only a light marking on the edge of the petals, as feathered, or if with much colour all over them, as flamed and feathered. Every break must take on, roughly speaking, one or the other of these markings; so a Cottage or a Darwin variety will always give a lighter or a darker break corresponding, I believe, to the "feathered" and the "flamed and feathered" of the strict florists. From a conversation I have had with Mr. Leak, I gather that this is his experience. It certainly is mine, only I find that there is an almost inevitable tendency for the delightful light breaks to become dark in the course of a year or two. How well I remember an exceedingly lovely broken Tara being shown at one of the last of the Temple Shows by Mr. B. S. Faudel-Phillips, who kindly gave me half-a-dozen that same autumn. What has happened? Mine became so heavily coloured that they lost all their beauty, so much so that last year I consigned them all to the "mixed." At the Perpetual Flowering Carnation Show in December I met Mr. Faudel-Phillips' gardener, and he told me that theirs have gone just like mine. I mention this because I believe that there is a tendency for all breaks to go much the same in the course of time. As Mr. Needham has told us, the various strains of Sir Joseph Paxton are now practically all one. Whatever difference there once was has not been retained.

Naming difficulties, of one sort or another, have always been a Tulip appendage. Nothing can well be simpler or better than the practice of the strict florists, and if their flowers were the only ones, and they themselves the only cultivators, there would be an end of the matter. To-day, however, instead of being the only growers of Tulips, they are but a very small minority, and it is a case of other men, other manners, both with respect to the types that are esteemed and the system of naming. Again, we must remember that what I may call the simple and expressive system is, after all, but a comparatively modern invention, and that we never read of Semper Augustus, or Gonda, or Admiral van der Eyck of the Tulip mania time, or of Zomerschoon or French Crown, which are older by far than Sir Joseph Paxton or Trip to Stockport, as being flamed or feathered. (It could not be done now if one wished, for no one knows from what they sprang.)

Here then, is our difficulty and perplexity. We have two types of flowers, two types of growers and two methods of naming; one scientific and expressive, one "anyhow." Should we continue as we are, or should we try to establish the newer and more accurate system? I should like to do so if I thought it practicable, but I do not. It might make confusion doubly confounded. I do not know if I have found the Philosopher's Stone, but I have been busy looking for it ever since I read Mr. Krelage's article, and here is the result of my efforts. I would propose that the joint committee who will meet at Wisley draw up a list of break names for all the Cottage and Darwin Tulips that they know of, and that then they should strongly recommend everyone to adopt them. Thus, supposing the name Australia is given to the rectified form of Clara Butt, everyone would know what to call his break, for all breaks are the same, whether they take place at Haarlem or Wisbech or Whitewell. Some might be darker and some lighter at the start, but the difference will not continue for long; but while it lasts it could easily be noted in the catalogue description. This scheme would leave all existing names as they are, it would be carrying out the principles of the newer nomenclature of the show men, and it would provide a series of ready-made pigeon-holes, into which we could all put our breaks. If a new variety is

introduced, the introducer would give it a double name, one for its breeder, the other for its rectified state.

If this suggestion is thought feasible and ultimately adopted, although it will not altogether appeal to my reason it will to my sentiment, for the contemporaries of Wearmondt and Gaergœdt (1637) spoke of Gonda and Semper Augustus simply, so in sinning we shall but be one with them, even if they did it through ignorance and we because of expediency. JOSEPH JACOB.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor intends to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

BELLADONNA LILIES NOT FLOWERING (*L. M. F. F.*).—The reason why your plants of Amaryllis Belladonna do not flower is possibly the bulbs are not ripened properly in the position where they are growing. As a rule, the best results are obtained when the bulbs are growing at the foot of a warm wall; in such a position they are usually sure of well-drained ground, while the heat from the wall assists in ripening the bulbs. Perhaps your plants would give more satisfactory results if you moved them to a position at the foot of a greenhouse wall.

ANTIRRHINUMS DISEASED (*F. B.*).—The Antirrhinums which you now send, and which have arrived in excellent condition for examination, packed in moss in a tin box—we wish all our correspondents would adopt this fashion of packing, or improve upon it by folding the specimens in a piece of soft paper (not cotton-wool) first—enable us to say that they are attacked by a fungus. This fungus, which is apparently a species of Septoria, is fruiting abundantly, and by means of the spores which it produces will, no doubt, travel very quickly. Not only are the leaves attacked and brown spots produced upon them, but there are patches on the stems which also show the trouble, and which soon spread through the stem, killing it at this spot and, of course, all above the spot attacked. It would be well to remove all the plants affected as completely as possible and burn them, taking care that the spores are disturbed as little as possible in the doing of it. Immediately after this, spray the plants with a solution of potassium sulphide at the rate of 1oz. to three gallons of water.

ROSE GARDEN.

ROSES INJURED BY INSECTS (*F. G. P.*).—We rather think the trouble arises from earwigs, which have been very prevalent this year. We also think the browning of the flowers has been rather the result of the washes applied. We think if you used a strong solution of Quassia chips you would at least make the foliage objectionable to the insects. Also give the soil a good dusting of soot.

TREATMENT OF AMERICAN PILLAR (*A. E. S.*).—In the case of fine, vigorous growers like American Pillar, the young growths should always have separate supports, such as Bamboo canes, allotted to them, so that they do not impede the development of the flower-clusters or hinder their own growth from maturing. Where possible, the old growths should be almost isolated, so that each may display the fine trusses to the best advantage. This also ensures the more rapid development of the whole plant.

ROSES FOR HOUSE FRONT (*Catherine*).—Two excellent varieties would be Climbing Caroline Testout and Gloire de Dijon. You could either nail the growths to the wall by means of some shreds or put in at intervals some small hooks so as just to loop the growths as they need it. We rather prefer this latter arrangement, as a Rose appears more natural when it hangs away from the wall a little and the pendulous nature of the growth induces a more abundant blooming. A good creeper for the side of the house would be Clematis montana, white Jasmine or Wistaria.

ROSE FOLIAGE DISEASED (*Lady Beaumont*).—The Roses have been badly infested with Rose slugworm. It has been very prevalent this year, and might easily have been discovered beneath the foliage. The slugworms are very small, of a pale yellowish green colour. They can easily be killed by spraying the bushes with nicotine wash, repeating it at frequent intervals. In winter, remove the surface soil of all the beds very carefully and have it burnt, placing fresh soil on the roots, as the larvæ, when mature, fall to the ground and pupate in the soil in small oval cocoons.

THE GREENHOUSE.

PRICE OF BEGONIA METALLICA (*T. H. S.*).—This Begonia cannot by any means be termed a scarce variety. If it is a well-furnished plant in good condition it should be worth 5s.

LEONTICE (*W. P. W.*).—There are three or four species of Leontice, but they are tuberous, not bulbous, plants. The flowers of the different kinds are of a yellow or yellowish colour, borne several together on a spike from 6 inches to 1 foot in height. They are hardy in a well-drained soil, but flower so early in the year that they are most satisfactory when grown under glass.

THE GREENHOUSE WINTER SWEET (*C. W. K.*).—This plant, known by the scientific names of Acokanthera spectabilis and Toxicophlæa, comes from the northern portion of Natal, and consequently requires more heat than South African plants in general. It thrives in the coolest part of the stove or in an intermediate house: that is to say, a structure with a minimum night temperature of 50°, rising during the daytime and increasing as the days lengthen and the sun gains power. A compost made up of loam, peat and sand will suit the Acokanthera. As your plants are in small pots, we should not advise you to shift them until the month of February, as the roots will by then be regaining their normal activity and soon take possession of the new soil. If you desire to grow your plants in the form of bushes, they must have the growing points pinched out several times during their earlier stages, for the Acokanthera is naturally of a somewhat straggling habit of growth. It does well trained up the glass at the end of a warm structure. The flowers, borne in dense axillary clusters, usually during the winter months, have obtained for it the name of the Winter Sweet, which, by the way, is also applied to a hardy shrub—Chimonanthus fragrans. You say nothing as to the treatment your plants have received, hence we cannot indicate the weak spot in their culture.

FRUIT GARDEN.

QUINCES SPLITTING (*A. P., Sussex*).—The rotting of the Quince is due to there being a crack into which rot-producing fungi could gain an entrance. It does not appear that the cracking was in any way due to the fungus, but probably the attack of the latter began after the fruit was picked. There is nothing in the fruit to suggest the cause of the cracking, but probably the roots got dry in the summer, and as a consequence the skin rather set, while the wet weather we have experienced since August caused it to attempt to swell so rapidly that the skin burst. We do not think the wood-ashes had anything to do with the trouble.

BLACK CURRANTS AND BIG-BUD (*Farfar*).—The big-bud disease among Black Currant bushes has become all too common, not many gardens being free from it. It seems a hopeless task to try to exterminate it; so many have tried, and all have failed as far as we know. The best we can hope to do is to keep it more or less in subjection, and the only way of doing this is the method you propose to adopt with your young Boskoop Giant tree, namely, pick off the diseased buds and burn them and the mites together. There is one comfort we can take to heart in the matter, namely, that trees (and we have noticed old trees especially) seem to go on bearing good crops of fruit in spite of the disease.

MISCELLANEOUS.

IMPROVING THE SOIL (*A. E.*).—Remove the sardine tins, broken bottles and crockery as completely as possible, and give a good dressing of stable manure and dig in. As a general manure you may mix (at the rate per square yard) 1oz. of sulphate of potash, half an ounce of sulphate of ammonia, half an ounce of superphosphate, and fork in lightly in spring. Nitrate of soda may be used sparingly for special cases in which it is desired to get plants to grow more vigorously.

TENCH WEED (*G. K., Sussex*).—The weed in your lake is the Tench Weed (Potamogeton natans). The only way to eradicate it is to keep it pulled out. If it were possible to clean the lake out entirely, that, by removing the mud, would go a long way towards destroying the weed. The lower kinds of plant-life, such as Algæ, may be destroyed by adding copper sulphate to the water at the rate of one part to 750,000 to 1,000,000 parts of water, but such weeds as the Tench Weed would require a much stronger solution, and one which would kill all kinds of water plants and fish at the same time.

USEFUL INSECTICIDES (*G. S.*).—The best wash for aphis on Roses or anything else is one of the Tobacco washes, which may be made by steeping half a pound of Tobacco leaf in water for two hours and diluting to ten gallons; but it is not cheap. We have found Quassia and soft soap almost equally effective, so long as it is used when the insects first make their appearance. It is made by boiling gently 1lb. of Quassia chips in water for a couple of hours, dissolving half a pound of soft soap in the water and diluting the whole to ten gallons. This may be used indoors, but we know of no better dip than the one made by kneading flowers of sulphur in a handful of soft soap and dissolving the mixture in one and a-half gallons of hot water. This is excellent for sponging or dipping Palms and similar plants.

OIL-STOVE FOR HEATING A TOMATO-HOUSE (*B. W. A.*).—If you object to pipes in the house, you cannot do better than have a stove such as the one you refer to. These and similar stoves are very useful, and serve the purpose well if they are kept clean and filled late every night, so that the wick can be left burning level for the night. Several firms advertise lamps in THE GARDEN from time to time, which heat short lengths of pipes filled with water and fixed to the top of the lamp. For a long, narrow house, such as yours, a lamp of this kind would give a more even heat throughout the structure.

INJURY TO CARNATIONS AND GRAPES (*Enquirer*).—The leaves of the Carnations are badly attacked by the fungus Heterosporium echinulatum. This fungus is always more prevalent, like the rust, in houses where the atmosphere is moist than where it is dry, and we should recommend you to keep the night temperature up to about 54°, to keep the air dry, and to ventilate on all suitable occasions. The Grapes sent are not only of poor colour, but also of poor size, and the spotting on them appears somewhat like that produced by red spider, but may be due to mealy bug. Is the house devoted only to Grapes? If not, they are probably interfered with by the other occupants. Perhaps, also, the temperature has been too low or variable. They certainly ought to be going to rest now. The fact that you have found shanking to occur is clear evidence that there is something wrong with the border, and until that is attended to it is not at all likely that you will be able to get good Grapes. In all probability the drainage of the border is defective, and very likely also there is a deficiency of potash, which should be made good by manure.

CARNATIONS SPLITTING THEIR CALYCES (*E. M. B.*).—Carnations split their calyces from many and various causes, lack of cultivation, overfulness of the flower, short and ill-shaped pods, being some of the primary causes. Some burst habitually because of their short, Pear-shaped pods, *i.e.*, those which are unduly large at the top and small at the base. Such as these, unless they possess some special quality of colour or fragrance, are not worth tolerating, seeing there are so many varieties of all sections to-day without the defect of which you complain. The flower that opens perfectly when rightly cultivated is that having a long, cylindrically-inclined calyx or pod, and from which the petals rise in regular order. We remember the late Mr. James Douglas, who raised thousands of seedling Carnations each year, saying that if three dozen of such a lot were good enough to merit a trial a second year, and one dozen sufficiently good in that trial to rank as first-rate flowers, he was perfectly satisfied. In so large a lot of seedlings we have seen scores that would have been welcome thirty years ago; but to-day, so rigid is the selection and so good the existing strains of these flowers, there is only room for the very best.

NAMES OF PLANTS.—*Alice Gill.*—1, Tradescantia crassicaulis; 2, Lotus Bertholettii.——*W. E.*—1, Cypripedium insigne variety; 2, C. Niobe; 3, C. arthurianum; 4, C. leeanum variety; 5, probably Oncidium flexuosum.

THE EDITOR'S TABLE.

Outdoor Flowers from Tunbridge Wells.—A lady who signs herself "J. M. N." sends a most interesting collection of flowers, gathered from the open, with the following letter: "We are sending you a few flowers for your table, all picked from the open borders in the garden—Daphne fioniana, D. Dauphinii, Desfontainea spinosa, Fuchsia microphylla, Grevillea sulphurea, Humea elegans, Leptospermum scoparium, Lithospermum rosmarinifolium and Parochetus communis. The two Daphnes have been in constant bloom since April, and the Grevillea has had some flowers on it ever since October, 1912. We planted the Parochetus as a small plant on the north side of the rockery in June, and it is now a large mass of leaf and bloom, covering a space of 14 feet. Our Leptospermum was planted several years ago in one of the most exposed parts of the garden. It is now 10 feet 7 inches high, and there is hardly a month in the year in which there is no blossom on it. In July this year it was perfectly white with flowers all over it. It seeds itself freely in the gravel walks and borders near the shrub. The Lithospermum flowers are such an exquisite blue. We hope they will not all have fallen off by the time they reach you."